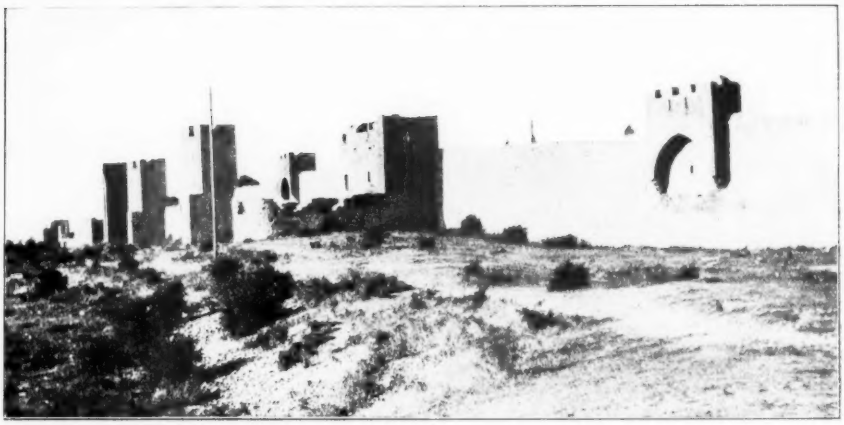

THE WALLS OF VISBY.

By Horace Porter, M.A.Cantab. [*A.*].

Read before the Royal Institute of British Architects, Monday, 16th December 1912.

I HAVE tried to put together the substance of some notes made during two recent holiday visits to the wonderful city of Visby, in the island of Gotland. The visits were, unfortunately, too short for the notes to be as complete as I should like to have made them; but they may serve to suggest some points of interest and significance in connection with the ramparts which still surround the greater portion of the town. I have purposely limited my attention here to the *walls* of Visby, its churches having been fully described in the interesting papers and drawings by Messrs. White, Haig, and Carpenter, published in the R.I.B.A. Transactions for 1886.

It may be worth noting, by the way, that since that date a great deal of new light has been shed upon two, at any rate, of the churches, in the course of a careful investigation at present proceeding under the direction of Dr. Ekhoff, who has recently published a book on the results of the excavations in the church of St. Clement,* where the foundations of no fewer than three former churches have been discovered within the walls of the ruined building of the thirteenth century. The foundations of an older church have also been laid bare inside the walls of St. Nicolaus, and the work now going on there is continually bringing to light fresh problems with regard to the history of the building.

The general result of these investigations, it is considered, will be to prove the existence of Christianity in the island at a far earlier date than that which ancient tradition assigned to its introduction, at the time of St. Olof's visit in 1030.

The island of Gotland is a low-lying plateau of limestone rock, some 70 miles long by 35 in breadth, in the middle of the Baltic Sea. The nearest land is Sweden, and with Sweden its history has been linked more or less closely from the ninth century. The island has been a part of the Swedish kingdom since 1645, and during the last two centuries the modern little town of Visby has come into being among the ruins of the past.

That is one of the distinctive features in Visby's history, reflected in its present-day aspect —the absolute break between the old life and the new. The little Swedish town of to-day.

* *Sct. Clement's Kyrka i Visby*, 12 kr.

with its quiet streets and shady gardens and small whitewashed houses, has no more connection with the magnificent merchant city of the past than has some pert little hermit crab with the great shell in which it is domiciled. Only a quarter of a century ago there were fields to be ploughed within the circuit of the city wall, and although the shell is less empty now, as the Swedish Visby increases year by year, yet still the gaunt grey ruins dominate it like skeletons of a greatness that is dead.

Of the thirteen or more churches which formerly stood within the city walls, one (the cathedral church of St. Mary) is still in use, and the ruins of nine others are ranged close together in the centre of the town, while along the ramparts thirty-eight towers and bartizans have survived out of the original tale of over fifty. Very striking is the impression which these towers produce as you approach the town. It is the Queen City of the Baltic that confronts you, the Visby of the thirteenth century, during which those ramparts grew up together with the fame that rose so rapidly and died down again so soon.

This is the aspect of the Visby walls with which I propose to deal: the witness which they bear to the successive stages of the city's rise and fall. For here we touch, I think, the secret of their special interest, and of their individuality. Some of their most striking features are due to the fact that they were not raised, in the beginning, as military fortifications round a military stronghold, but were designed first to assert, and later to safeguard, the power of a merchant city. In the details of their construction and masonry they afford a remarkable instance of history written in stone.

In order to make that history clear I must ask to be allowed to begin by going back a little further into the past.

The fame of Gotland has become eclipsed by that of its one city, yet the island was an important centre of commerce long before the name of Visby had been heard. The island folk were among the first to find out the seaways of the Baltic, and to establish trade routes along the Gulf of Finland. Nor did they stop there, but extended their enterprises over the North Sea. The extraordinary number and variety of coins dug up in Gotland bears witness to the extent and antiquity of its commerce with other lands. No fewer than 20,000 Anglo-Saxon coins alone have been found, most of them of the time of Ethelred. Scandinavian, Russian, and German coins are plentiful, and there are also some from Southern Europe and from Arabia. Dr. Klintberg's book* on the early history of the island supplies interesting details of these and other evidences of civilisation and wealth.

By the end of the tenth century Gotland had come to be the chief mart for all the important trade of Northern Europe with Russia, in the first place, and through Russia with the East. This trade included all that was most costly of Russian furs and Eastern gold and gems, so that it was natural that the foreign merchants who flocked to the island should come to desire some special protection for their wares. It was natural, too, that they should congregate in the spot which afforded the best anchorage for their ships. This they found on the west coast, under the shelter of the most famous "Vi," or place of sacrifice, of Gotland's heathen days, a rock platform close to the shore and raised some hundred feet above it.

At the foot of this little height a natural harbour was formed in the shelter of two small islands close to the shore (now joined to the mainland), and here the Gotlanders had been accustomed to moor their vessels, and had formed a "by," or community, long before they were joined by foreign traders. It was only by degrees that these established themselves in growing numbers, and developed the little "*Vis-by*" into a centre of commerce and a place of storage for their costly goods. No precise date can be given for this development: but it must have

* *Anteckningar om Gotland*, M. Klintberg, 5 kr.

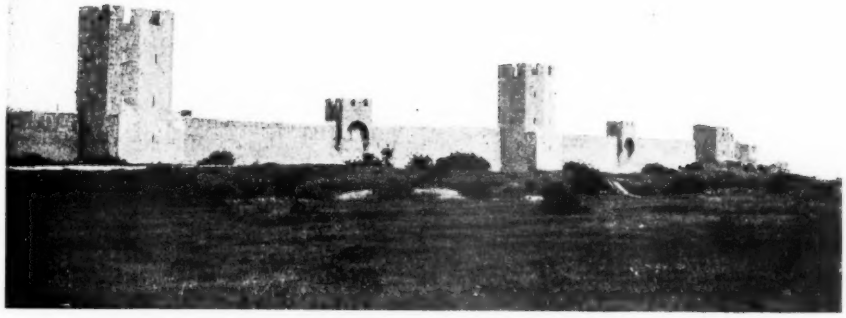

Fig. 1.—East Wall (Towers 9, 10, 11).

Fig. 2.—Mynt-hus (St. Nicolaus seen behind).

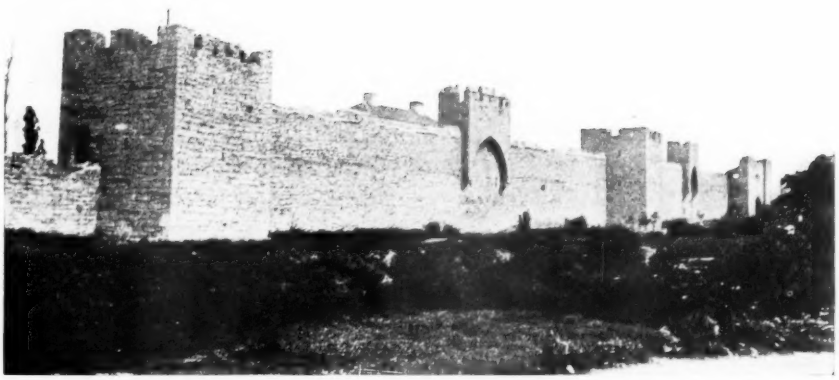

Fig. 3.—South Wall

been fairly complete in the twelfth century, when the Visby merchants had special privileges granted them by the Emperor Lothair, and organised the first beginnings of the great Hanseatic League, in which Visby was for a while the leading city.

In the thirteenth century this "Venice of the North" reached the zenith of its wealth and power. Pilgrims as well as traders flocked thither on their way between Scandinavia and the Holy Land. Religious communities came to stay, and built their own churches. Visby had its own mint, its own Government, and its own code of sea law, which commanded obedience from the ports of Russia to the Mediterranean, and forms much of the basis of modern maritime law.

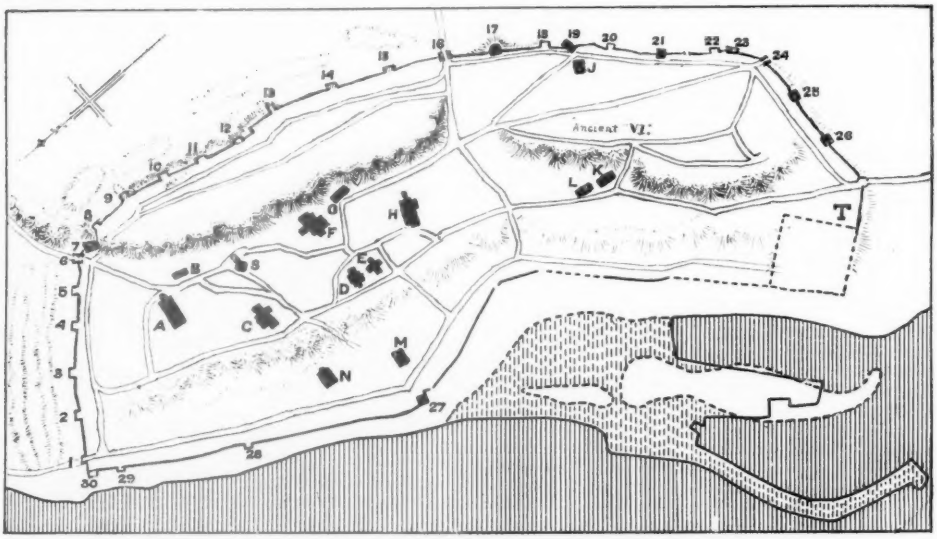

Fig. 4.—Site Map of Visby, showing Walls and Main Thoroughfares.

N.B.—None of the buildings in the city are indicated except the churches of the twelfth and thirteenth centuries. The dotted lines show where the wall has disappeared, and also indicate the old line of the shore, and of the two islands. The present quay is shown surrounding these.

A, St. Nicolaus.	E, St. Lars.	K, St. Hans.	*O, Russian Church.	7. Mynt Hus.
*B, St. Gertrude.	F, St. Mary.	L, St. Per.	S, Holy Spirit.	19. Tjärhof.
C, St. Clement.	H, St. Karin.	*M, St. Jacob.	*T, Visborg Castle.	21. Kejsar Hus.
D, St. Drotten.	J, St. Michael.	N, St. Olof.		

* Has disappeared.

To the thirteenth century also belongs the history of the Visby ramparts, which I divide, for convenience, into three periods, coinciding more or less with the beginning, the middle, and the end of the century.

I. First Period.

I have said that the city of Visby grew up round about the raised "Vi," or place of sacrifice, above the harbour. This spot forms the southern extremity of a ridge of rock running parallel with the shore, and descending steeply on this side, like a miniature cliff, or "klint" (by which name it is known in the town to-day). From the base of this rock the ground slopes at first very gently, and then more steeply, to the shore, forming a series of terraces on which to build the town, which spread northward as it grew.

Along the main central terrace were ranged most of the churches, of which three, at any rate—St. Olof, St. Drotten, and St. Lars—were in existence before the beginning of the thirteenth century. Of these St. Lars affords a striking example of early twelfth century

Romanesque architecture. Some authorities place in the twelfth century also the remarkable "Helgeandskirke" (Church of the Holy Spirit), with its two-storied octagonal nave; but the early part of the thirteenth century is the date commonly assigned to this building.

By the end of the twelfth century it is evident that Visby had already reached a high degree of prosperity. Unfortunately, that prosperity meant loss to the rest of Gotland, where no separate township had formerly been recognised. The island as a whole had been the unit of social life, and free trade had been practised in its fullest form, native and foreign merchants alike living and trading where they chose. But only those Gotlanders who were established at Visby were allowed to share in its life and privileges. The rest found their goods taxed and themselves shut out from its markets, as much by its exclusive laws as by the wall with which, at the beginning of the thirteenth century, the town was enclosed.

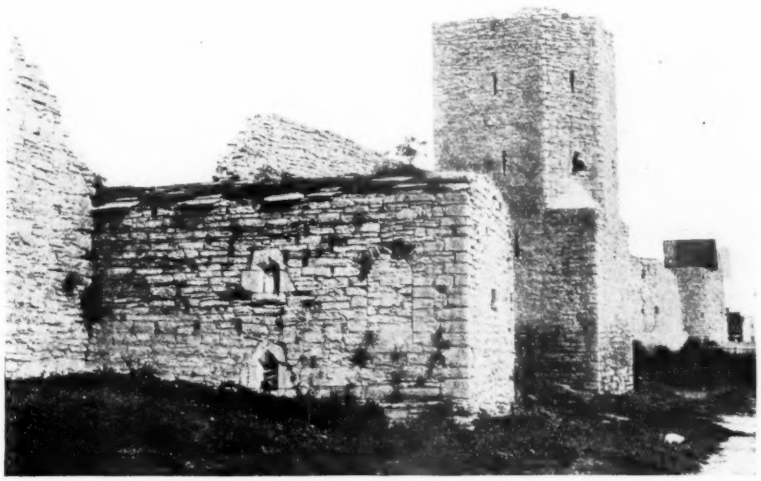

Fig. 5.—Tjärhof.

Only a wall of moderate height was built at first, varying from 15 to 18 feet. The masonry was squared, uncoursed rubble of local limestone, the lower part being built with very large stones. It was finished at the top with wide battlements, alternately plain and pierced with a loophole. For a short distance at the north-east corner the later work has been cleared away, so that the wall stands out in its original line [figs. 2 and 12]. But it is easy to follow this throughout, as the battlements show distinctly in contrast with the later masonry—generally of smaller stones—with which they were filled up at the subsequent raising of the wall.

The line of this enclosing wall seems to have been determined by the ridge of rock whereof the famous "Vi" formed the southern extremity. It is built along the edge of this ridge, on the landward side, and down the slope to the sea at the north and south ends of the town. Along the sea-front it followed what seems to have been the old line of the shore for a distance which I find given as 1,950 yards. The three landward sides are estimated at 2,400 yards, making a total circuit of 4,350 yards. A considerable portion of the south and west walls has disappeared, but the rest of the line remains standing, with only a few breaches.

Three buildings, at any rate, along the ramparts seem to have been in existence before

the wall was marked out. These are indicated in black on the site map: the square, solid fortress (No. 27) now known as the "Krut Torn," or Powder Tower, down by the sea; the so-called "Mint House" on the slope at the north-east corner; and a remarkable building (No. 19) between the east and south gates, evidently deserving of a worthier title than the "Tjärhof," or Tar-factory, by which it is now distinguished.

This last is a long and now rather low building, with an almost flat roof of large slabs of limestone, which may very well have been put on, in its later days of tar manufacture, at the first-floor level of the original structure (there are indications of this having been carried up to a greater height). The doorway on the outer face of the building is blocked up, and so are the windows, which are of extremely simple construction [fig. 5].

I should conjecture that we have here one of the oldest buildings which still exist at Visby. Certainly it must have been already standing when the first wall was planned, for this butts against it with straight joint on either side. Also, it cuts obliquely through the line of the wall, instead of projecting at right angles, as do all the other buildings along the ramparts, with the exception of the "Mynt-hus" [fig. 2].

Fig. 6.—Kejsar Hus.

It is a matter of history that Visby had its own mint by the thirteenth century, and although there seems nothing but tradition to connect it with this building, there are the remains here of a fine vaulted hall, with a story of fair height above it. That it was built earlier than the city wall is evident from the oblique angles which it makes with this, and from the line of junction between the two. The first battlemented rampart was built with a straight joint against the Mint House, and has come away from it, leaving a wide crack. Above the line of the battlements, the later masonry, added when the walls were raised, butts more closely against the older structure.

Certain other buildings—six in number—I take to have been erected together with that first city wall, and the first point to notice about them is that they are all ranged about the south-east end of the rock ridge, which formed the first focus of the town. There is the south gateway tower, giving on to the main road into the country, and two square towers just beyond this, where the wall turns westward: all simple structures of only a moderate height [fig. 3]. I measured the tower next to the south gate (No. 25), and found its dimensions as follows: projection 15 feet 3 inches, face 30 feet 6 inches, height about 43 feet.

Northward of the south gate, between it and the Tjärhof, are two more buildings which seem to have been erected together with the wall. One of these (No. 22) is so much defaced with later work that I could not make much of it; the other, the "Kejsar Hus" [fig. 6], is a striking example of a thirteenth-century house—possibly a storehouse and hall of exchange for the German merchants, who are described in thirteenth-century charters as "Emperor's men." It was used as a State prison in the eighteenth century, and the line of junction with the inner

face of the rampart is covered with cement and plaster; but on the outside there are clear indications of the house being bonded into the wall, which cuts at right angles through its centre.

A short distance beyond the Tjärhof again stands a semicircular tower (No. 17, described in one old map as "*Turris Kickath*"), which I think was also built with the wall [fig. 7]. It is based on a little promontory of rock, which may possibly have determined both its position and form. It is the only one built with a rounded face, and the masonry is of a bold and simple character. It has been walled up on the inside, and converted into a storehouse, with a gable hood for a roof, which looks extremely incongruous at close quarters, but forms an effective feature in the line of ramparts at a distance.

At the completion of this first period, then, we have the old merchant settlement developed into an independent and alien city, enclosed by a low wall, into which perhaps nine towers and other structures were either built or incorporated, chiefly round about the south-east plateau, which I take to have been the original heart and centre of the town.

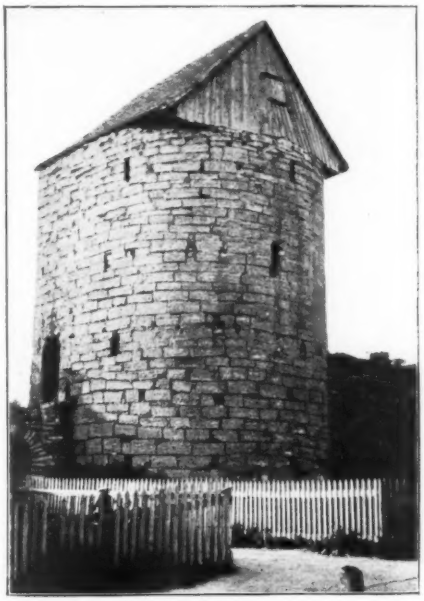

Fig. 7.—Tower 17.

II. Second Period.

To the Gotlanders outside the pale of Visby the enclosing of the town was a bitter affront, and one which they were not slow to resent. In the year 1288 their hostility was organised into open warfare, and long before that date the rich burghers must have realised the possibility of an attack upon their usurping city. Accordingly, they set to work to fortify the most important positions along the wall at no very long time, probably, after its completion. I call this the second period in the history of the ramparts, and should place it, roughly, at about the middle of the thirteenth century, a time of great building activity within the city. Some fine work in the way of church building belongs to this period, notably the greater part of the beautiful Abbey Church of St. Karin.

I called attention to the fact that the towers which seem to have been erected together with the wall stand round about the important south-east rock plateau, and it is interesting to note that the six which, from details in their construction, I should place in the second period are ranged along the remaining section of the east wall. A glance at the map will show that this would be the part upon which attention would next be concentrated for defence against an inland foe; and the two towers which give the impression of being the earliest built along this stretch occupy the two most commanding positions, at angles in the wall, at either end of a slightly projecting platform of rock.

The importance of these towers (Nos. 9 and 13) is further emphasised by the bastions built on to the face of No. 9, and along the north side of No. 13, apparently for the purpose of enfilading the ditch in between [fig. 8 and headpiece]. They are pierced with loopholes, and are somewhat roughly built up to the height of the rectangular bases of the towers, which are the only two thus fortified.

The towers themselves are constructed on the plan adopted with the majority of those added later, as projections outside the rampart. They are open towards the town, and present, on the outside, a rectangular base up to the lower level of the battlements, or about 13 feet

Fig. 8.—Tower 13.

above the ground. Above that level the walls are carried up as five sides of an octagon, the change in form being effected by cutting off the external angles with what I may perhaps term *broaches*, sloping sharply back against the diagonal faces. Each face is pierced with narrow embrasures, one above another, and access to the different levels, on the inside, was evidently obtained by means of wooden floors and ladders, the sockets for which can still be seen.

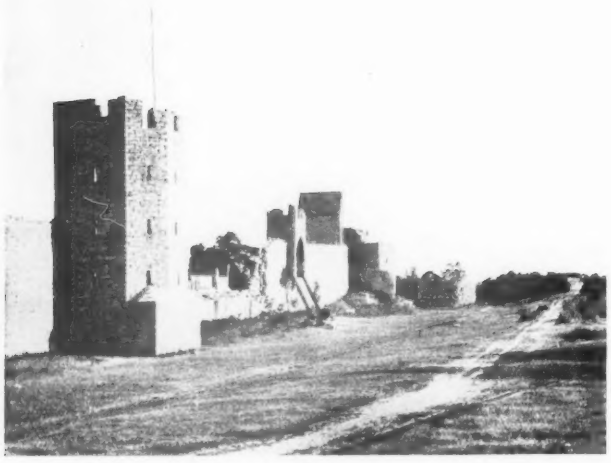

Fig. 9.—Tower 14.

This type of structure is repeated in thirteen of the towers still standing, with no essential differences, but with certain variations of detail which help to suggest the order of their erection. The rectangular base in the later towers is carried up above the level of the battlements to the height of the raised rampart—*i.e.* about 30 feet—and the ground-plan in these is larger than in Nos. 9 and 13. I should conjecture that these towers had not been so tall as those built later, but they are too much broken down to afford any certain evidence upon this point. It is, indeed, one of the many puzzles which the Visby walls afford to try and find a reason for the almost entire disappearance of the upper portion of these two towers.

The towers marked 14 and 15 were, I think, next added, to protect the more level stretch of ground towards the east gate [fig. 9]. They are in far more perfect condition than the other two, but they also present the characteristics of low bases and wide-jointed masonry, with larger-faced stones and less mortar than in the later work. In No. 15 the line of junction between the tower and the wall, on the south side, shows with special clearness the order of the different stages of rampart building. The wall at this point is based on the rock ridge, at the very edge of this, and the tower was built over the face of the rock and against the wall, up to the foot of the battlements, and bonded in with the masonry filling up the space to the top of these; while above this level the raised part of the wall is butted against the side of the tower.

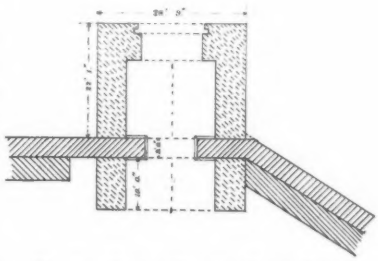

Fig. 10.—Ground Plan of North Gate.
Scale $\frac{3}{32}$ inch to 1 foot.

The angles between the towers and the rampart afford an interesting field for study all round the circuit. Some of the most useful pieces of evidence as to the gradual development of the fortifications can be gleaned from these.

The growing anxiety for the safety of the town also found expression in the building of gateway towers over the east and north entrances. The latter presents some interesting features. It is built against the inner and outer faces of the city wall, round an archway similar to the existing "Fishermen's Gate" beside the Krut Torn, and that it was not part of the original plan is shown by its line of intersection with the wall, which turns from east to south just beyond the entrance. The tower is built right into the corner, on the inside, standing square with the north wall, so that its exterior projection meets this at a distance of about 2 feet from the angle on the outside. This north-east corner of the wall, therefore, is seen up to the height of the old battlements, above which the later masonry shows no angle, but is carried on in the same line and butted against the tower with a straight joint [fig. 13].

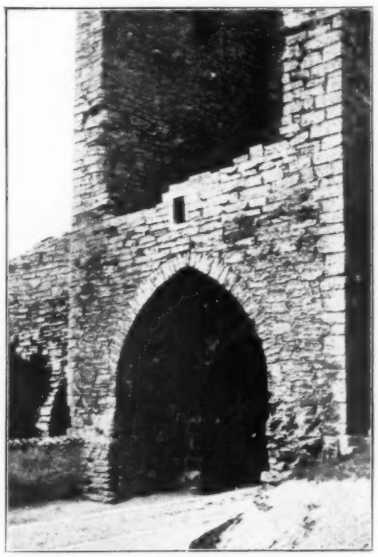

Fig. 11.—North Gate.

III. Third Period.

We come now to the third, and in some respects the most interesting, stage of the rampart building, comprising an immense amount of work done within a comparatively short space of time. Popular tradition places it in the last decade of the thirteenth century, after the open attack upon the town in 1288.

The attack was not successful. The peasant force was met by the better-armed burghers at some distance from Visby, and was routed with heavy loss. But the Gotlanders were a courageous as well as a fiercely angry people, and they would have gone on fighting had not the priests persuaded them into a truce, which they made use of to lay their grievances before the Swedish King Magnus Ladislas.

Gotland had for some centuries been drawn into special relationship with Sweden by a treaty which bound the Swedish kings to protect the island in time of need, and entitled them,

Fig. 12.—Inside North Gate

in return, to levy a general tax upon its people. The terms of this treaty, apparently, the men of Visby had violated in fortifying their city without their patron's leave, an offence that King Magnus was as ready as the islanders could wish to resent and punish. He promptly called upon the merchant fraternity to double their yearly levy, besides paying a heavy fine for the offence of having built and fortified their wall, and for the privilege of further strengthening it in the future.

This privilege, according to the commonly received tradition, they proceeded to exercise

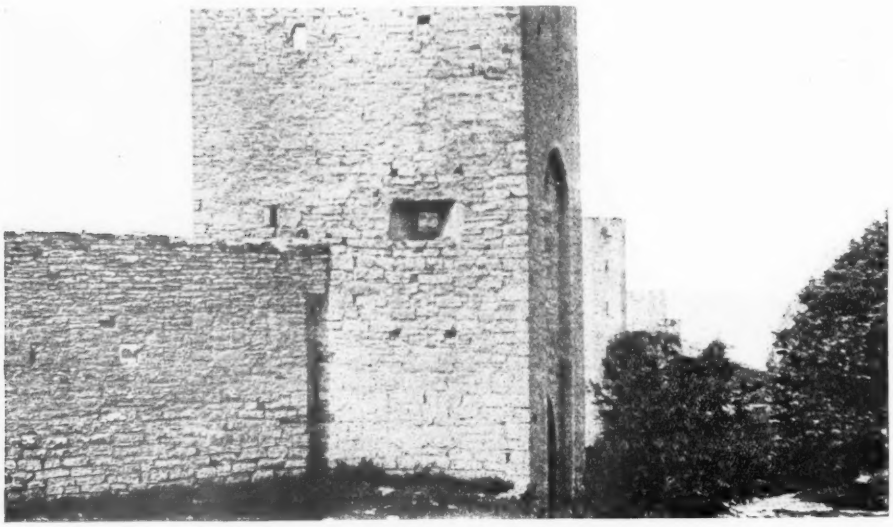

Fig. 13.—Outside North Gate.

at once by raising the city wall and more than trebling the number of towers along it, in the course of the following decade. Dr. Hildebrand, however, the eminent antiquarian, seems to be of opinion that all this work was completed *before* the fighting of 1288. The point is not material from an architectural point of view, as it only makes a difference of ten years or so in the date of this third period. In any case, we may place this in the last quarter of the century, when the power and fame of the city were at their height and the name of Visby had become a byword for wealth and splendour. The legends of those days speak glibly of silver roofs to the towers, and copper window-frames in the tall merchant houses, and golden cradles for the children, and gems to adorn the walls of the churches. The brick roses at the west end of St. Nicolaus are said to have gleamed red with great carbuncles which glowed as a beacon to ships at sea. And if some of these glories read rather like a fairy-tale, it is certain that the Visby of the latter part of the thirteenth century was a city of possibly unparalleled magnificence.

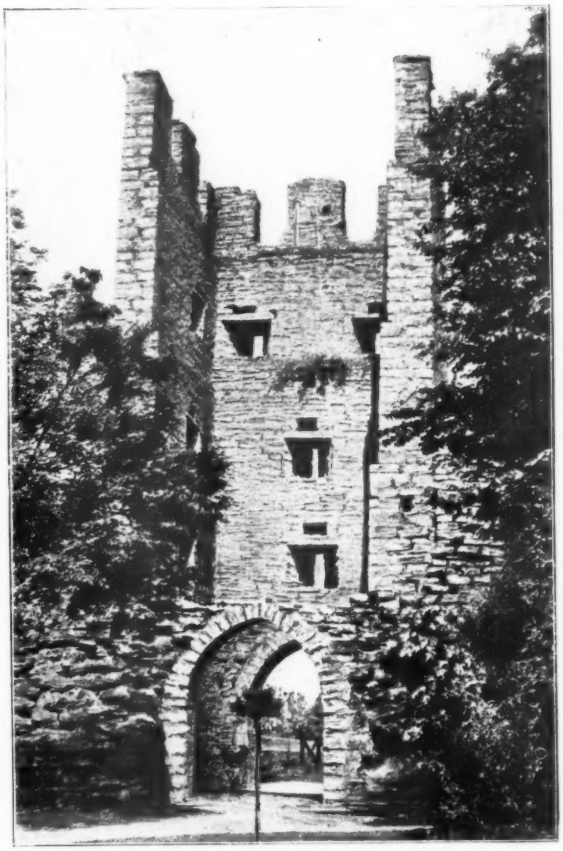

Fig. 14.—Inside the N.W. Gateway Tower.

The work done to the ramparts during this third period comprised the raising of the city wall and the addition of forty or more new towers of various types. They are all open on the inside, with the one exception of the north-west corner tower, popularly known as "Cames" (No. 30). The two small towers between this and the "Krut Torn" (No. 28, and No. 29, known as the "Jungfru Torn") are also practically enclosed. They are built as battlemented buttresses against the outer face of the wall, which apparently was not raised along this seaward side. It is only about 15 feet high here, on the inside, with wide battlements.

Two more square gateway towers were built, No. 12 (enclosed to form a storehouse, in the eighteenth century) and No. 1, at the north-west corner [fig. 14]. A number of rampart towers were also added on the plan already described, with rectangular base and five-sided upper part. Four of these were built along the north wall, and six along the east wall. Whether there were any on the western section of the south wall it is impossible to say, this part having entirely disappeared.

I have already touched upon the slight differences distinguishing these towers from the four earlier ones of the same type along the east wall. Those on the north side are the tallest, and probably the latest built. Their greatest height is about 70 feet. They are not

absolutely uniform in their dimensions, but on ground-plan they measure, roughly speaking, from 20 to 30 feet in projection and from 24 to 28 feet across the face.

Fig. 15.—East Wall.

One of them (No. 4) has an arched entrance through its rectangular base, but this looks rather like an afterthought. There is no sign of an inner archway, as in the other gateway towers, and the place of a portcullis arch on the outside is supplied by grooves on either side of the doorway, where the wall has been refaced up to the height of the broaches, to provide a sufficient protection for the purpose.

The most remarkable feature of this later work is the type of balcony tower, or bartizan, evolved in the raising of the ramparts. These "saddle" or "hanging" towers, as they are termed locally, are, so far as I know, peculiar to Visby. They were added as further defences midway between the taller towers (*i.e.* from 120 to 140 feet distant from these, on either side), and must originally have been about twenty in number. But only eight now remain, the rest having fallen down—in most cases bringing the wall with them—owing to their unusual method of construction [figs. 15 and 16].

Fig. 16.—East Wall.

This is aptly described by their popular name of Saddle-towers, their side walls being perched across and astride of the raised rampart for some six feet above the summit of this. They are carried about half-way down the wall on either side, and rest upon large stone corbels. Like the other towers, these "saddles" are open at the back, and the battlemented face is supported by a wide arch built against the rampart wall. The effect is extremely picturesque, but the strain on the wall seems to have been excessive. So far as I can judge, all those that have come down have fallen outside the wall, and their tendency to do this is shown by the fact that two of the remaining eight are buttressed up from the outside.

As I have said, the arch on the outer face springs from corbels, but it apparently was not bonded into the rampart wall. A portion of this has been left standing in one instance, showing the corbels, and also a fair face against which the arch had rested.

The one remaining tower of this type along the north wall was probably one of the latest

built, and some care seems to have been taken to adjust the balance by increasing the projection of the side walls at the back and by making canted corners on the front. But even here a strong buttress has been built beneath the arch to prevent it from sharing the fate of the three others formerly along this side. Two of them fell in 1842 and 1866 respectively, making great breaches in the wall.

This later saddle-tower is more elaborate in construction than the others, but I do not think it is so picturesque. The simplicity of outline forms one of the most striking features of these bartizans. Another characteristic point to note is the absence of uniformity in the height, span, and form of their supporting arches. Most of them are pointed, but they are rounded in one or two of the smaller "saddles" on the east wall. The span of these is barely 20 feet, while those on the south wall measure 25 feet.

These variations give rise to some interesting questions of construction, and I believe the explanation is to be found in a feature of the original city wall which was almost entirely obliterated by the work of raising and thickening done at this third period. That work included a strong buttress of fairly rough masonry built against the inner face of the wall, round the three landward sides, and supported upon a row of low pointed arches springing from the ground. These arches form another striking—and, I believe, unique—feature of the Visby ramparts, and in the references to them that I have come across in the guide-books of the place it seems taken for granted that they belong to this third period, and that the buttress was arcaded in this unusual fashion either to economise materials, or possibly to provide space for storage.

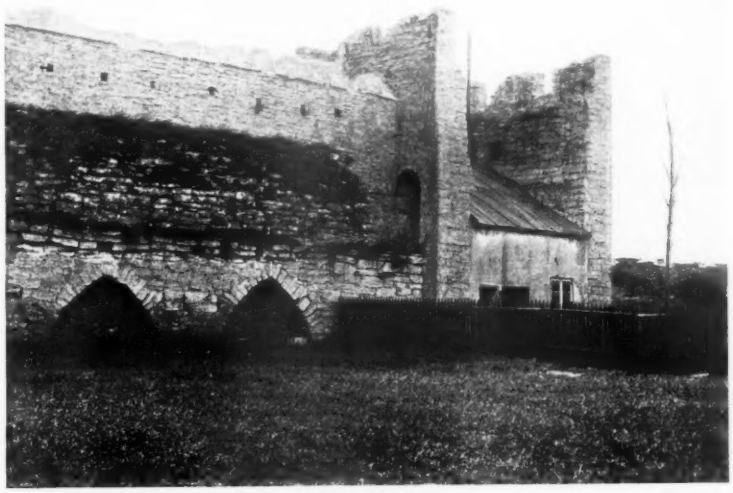

Fig. 17.—Tower 26.

The general effect in most parts—and specially inside the north wall—certainly suggests the impression of the arches being simply a part of the buttress, but various details, taken together, point to an earlier origin. I believe that the first city wall was provided on the inside—for a great part of its length at any rate—with a projecting ledge or platform from 2 to 3 feet in width, supported upon a line of arches built against the wall up to a convenient height for looking out between the battlements. On the slope above the Mint House, where the later work has recently been cleared away, just such a ledge has been exposed [fig. 12], and it would have been a feature of obvious utility in so large a circuit of wall with so few towers as were in the original scheme. Outside some of the oldest towers the buttress stops a few feet short, leaving a small platform open immediately above the arches, and below a doorway in the side wall, which projects, in these earlier towers, inside the rampart [fig. 17]. Also, here and there

Fig. 18.—Tower 9.

along the inner face of the south and east walls a line of flat stones can be distinctly traced immediately above the arches. It seems clear that these were in existence before the raising of the rampart, and that the ledge above them was utilised as a base for the later buttress work and for the side walls of the saddle-towers.

The corbels supporting the front arches of the "saddles" are built in with the later masonry between the old battlements, and rest upon the lower level of these. So that this striking form of tower seems to have been suggested by the main features in the wall to be raised, and would necessarily be subject to certain variations corresponding with the breadth and height of the battlements, which are not uniform throughout.

The line of inner arches was interrupted by the earliest towers, but the later ones were built against the outside of the rampart up to this height, and then carried up, with faced masonry, flush with the interior face of the wall. The towers stand open now down to the ground, but the broken masonry at their inner angles affords undoubted evidence of the arches having been originally carried across [figs. 18 and 19].

The great height of the north wall (nearly 30 feet in some parts, or from 4 to 6 feet higher than the east wall) would require a thicker buttress, and I venture to suggest that here it may have been found needful to case over the original arches, so as to obtain a broader base than the narrow platform would afford. At the corner of one of the towers (No. 3) the broken masonry affords suggestive evidence that this was done [fig. 20].

Fig. 19.—Tower 11.

The place of the blocked-up gangway was supplied throughout by two wooden galleries, one at about the old level, and one near the top of the wall. The two lines of socket-holes for cross-beams, or putlogs, can be clearly followed.

There is no doubt that this line of ground arches greatly adds to the pic-

turesqueness of the inner face of the ramparts. The effect is particularly striking along the north wall, where a delightful shady walk runs down the slope towards the shore, its name of "Silfverhättan" commemorating the silvery roofs of the towers in their palmy days. Another attractive rampart walk is the "Murgatan" (Wall-street), just beyond the east gate, where, until the last few years, there still stood the wooden posts and beams of a rope-walk dating back to the Middle Ages.

IV. Visby's Fall.

The beginning of the fourteenth century found Visby at the zenith of its wealth and fame: the Queen City of the Baltic, guarded by its formidable circuit of rampart walls and towers. In appearance these would seem to defy all comers, and it is one of the ironies of Visby's history that they proved so useless when the robber King Valdemar of Denmark made his raid upon the treasure city in the year 1361.

Fig. 20.—Tower 3 (S.E. Angle)

The Swedish King Eric wrote twice to the Visby burghers, warning them of Valdemar's purpose, and urging them to be prepared; but they seem to have reckoned themselves safe behind their splendid ramparts, and all active efforts to repel the invading army were left to the despised country folk. The Gotlanders had not lost their courage, and they mustered in force to meet King Valdemar when he landed on the island at some distance from Visby. They were utterly routed, but made another gallant attempt to stop his progress a little further on. Again they were defeated, but once more they gathered themselves together for a final stand on the broad plain overlooked by Visby's southern wall. The burghers must have looked down from their watch-towers upon the fearful slaughter which ensued, and possibly it broke their courage. At any rate they made no attempt at holding the walls so elaborately prepared to stand a siege, but opened the south gate to admit the conqueror. And there seems a certain grim appropriateness in King Valdemar's answering insult, which was to have a breach deliberately made in the wall for his entry, in token that he came by force of arms.

Local tradition points to the broken wall near the Tjärhof as the "Danish breach"; but it is tempting to suggest that this may have been made close to the south gate, on the eastward side. The original wall here has been obviously broken and rebuilt to the height of the raised wall, all at one period, with large square blocks of stone and very little mortar. This later work is carried up from the base of the wall to its summit without a break, and the line of junction with the old masonry beside the south gate is plainly visible. Also there is no trace of a saddle-tower on this stretch of wall, which is butted up against the curious old building (No. 23) at its eastern extremity, and is finished along the top with short, thick battlements, to be found nowhere else in the whole circuit of the ramparts. There is, of course, no conclusive evidence as to the date of this work, but it is at least possible that the men of Visby did not suffer the breach to be left open for the benefit of future enemies, and that this rebuilt portion is fourteenth-century work put in to reinstate their defences and to cover up the traces of that time of humiliation and loss. That they were anxious to forget the part they had played is shown

by the legend which gave its name to the "Jungfru Torn," wherein was said to be walled up a maiden who had betrayed the town into Valdemar's hands.

The robber king's sack of the town seems to have been as thorough as he could make it. Gold and silver from the merchants, and jewels from the churches (including the famous carbuncles from S. Nicolaus) were gathered together by his men in barrels-full, so the story goes; and when he took his departure, at the end of a month, he claimed the whole of Gotland as his own possession.

There was no lasting peace or prosperity after that for the merchant city. Denmark and Sweden fought repeatedly over so rich a prize, and their kings looked upon it as a mine of wealth to be drawn upon at need. Nor were matters improved even when the two kingdoms came to be united under a single sovereign. For one of these—Eric of Pomerania—in 1411 built the Castle of Visborg, in the south-west corner of the town, and made it into a pirate stronghold from which to capture the merchant vessels bound for Visby's harbour. The traces of this fifteenth-century work are now to be seen only in the few remaining fragments of the castle, and in the absence of walls along the southern slope down to the sea, these having been pulled down to make room for the castle precincts.

All through the fifteenth century Visby was gradually losing its position in the world of commerce. Fresh trade routes were being opened up, and Gotland was no longer the centre that it once had been. From being the leading city in the Hanseatic League it descended to being first only in one of three groups, and this distinction in turn was challenged by its rivals. The rising town of Lübeck, in particular, was resolute in its persistent attacks upon Visby's pre-eminence, and gained justification when the lords of Visborg Castle began to plunder Lübeck vessels. This was what the Danish Admiral Norrby did when he was put in command of the castle at the beginning of the sixteenth century. He made it his boast that he plundered only the richest ships, and with this view he singled out those of the Lübeck merchants for many a daring chase and capture. The Lübeckers carried their grievances indignantly to the Swedish king, whom they urged to undertake an expedition against Visby; but it seems to have miscarried, so they took the law into their own hands and boldly attacked the city that had once been the glory of their merchant league. They landed to the north of the town, and broke through the walls near the north-west gate, plundering, burning, and destroying houses and churches, and laying siege to the hated castle. This time Visby had no power to rally, and when peace settled down once more it was the peace of extinction. The Lübeckers' breach was never repaired, and a great gap in the wall shows where they made their entry. Churches and houses were left to fall into decay; the monks left their abbeys, the rich merchant vessels vanished from Gotland's shores, and when the island came finally under Swedish rule, after the Peace of Brömsebro, in 1645, the once famous city had dwindled into a handful of humble dwellings sheltered among the ruins of the past. Visborg Castle was destroyed, and the stones were used by one of the Swedish kings to make lime for his new palace; but the ramparts, and most of the churches, were left alone for rack and ruin to do their worst until recent times, when very intelligent care has been given to their preservation.

There are moments, when the sun shines brightly upon that splendid line of ramparts, when you can fancy that they still screen the wonderful merchant city, and can read in wall and turret the glories of the past. But there are moments also when the desolation of the present is all that speaks from those grey, gaunt towers, as the twilight deepens, and the wind, whistling drearily through cracks and crannies, seems to echo the old Hebrew prophet's lament:

"They shall make a spoil of thy riches, and make a prey of thy merchandise: and they shall break down thy walls, and destroy thy pleasant houses: and they shall lay thy stones and thy timber and thy dust in the midst of the water. . . . How art thou destroyed, that wast inhabited of seafaring men, the renowned city, which wast strong in the sea, she and her inhabitants, which cause their terror to be on all that haunt it!"

DISCUSSION OF MR. PORTER'S PAPER.

The President, Mr. REGINALD BLOMFIELD, A.R.A., in the Chair.

MR. AXEL HAIG, who rose at the invitation of the President, said he was a native of, and had spent his early schooldays at Visby in Gotland, and could confirm all that Mr. Porter had said. He remembered as a boy that they would sometimes hear terrific noises during the night, and in the morning it would be found that the noises had been caused by the fall of portions of the old town walls. It used to make them feel very sad, for the memories of the past greatness of their city were most precious to them. At the right-hand lower corner of Mr. Porter's plan would be seen a dotted space representing the site of the old castle built by King Eric—a very strong, fine, picturesque building. There still remained a corner tower which they would all admire; it was a pity that it was the only part left of the great quadrangle of buildings. In the seventeenth century King Charles XI. of Sweden, the father of Charles XII., wanted material and lime for the building of Carlskrona, and many of the stones from the castle were taken for the purpose. There was another part of the inside wall which they ought to know a little more about, namely, the middle of the western wall, which stood near the water. Here were the remains of a castle called "Kalfskinshuset," *i.e.* "Calf's Hide House," the space having been got from the town in the same way as the space was got for the building of Carthage, by cutting a hide into thin strips and surrounding therewith the entire area required for the building. Only the cellar walls and some vaults remained, and these were within the precincts of the Burgomaster's house. The castle owed its origin to a great warrior, Severin Norrby, a faithful adherent of the cruel King Christian II. of Denmark, who beheaded so many people. This man was a pirate, and brought in ships from the Baltic Sea. The old harbour of Norrby's time, which is now filled in, was to the north of the two which were shown in the plan. Some years ago he (Mr. Haig) made an etching showing the old town seen from the sea; in the middle distance was the Gothic palace called "Kalfskinshuset," and in the foreground a captured ship being towed into the harbour by some of Norrby's boats. The etching is called "Towing in the Prize." Among Mr. Porter's illustrations was the cathedral, the only church now in use, with the restoration of which he (Mr. Haig) had had a great deal to do. It was interesting to note that after a fire in the eighteenth century, the nave wall had been repaired and hidden by the aisle-roof, and nobody knew, except those who were familiar with the place, that there was a row of windows under the cornice. He lowered that aisle-roof, and exposed the windows. They were not proper clerestory windows, because they lighted only the loft above the nave, but from the outside they took the place of clerestory windows. The towers were built in the middle of the eighteenth century after the fire. He had enjoyed the Paper very much indeed, and he begged the meeting to unite with him in giving Mr. Porter a very hearty vote of thanks.

MR. GEOFFRY LUCAS [*F.*], in seconding the vote of thanks, said that when he first set eyes on the walls of Visby last July they had a somewhat inhospitable appearance, for he arrived, as was usual, at 5.30 in the morning, from Stockholm, and found the hotels full. The walls were certainly most romantic and interesting, and the town itself very fascinating with its winding narrow streets and little whitewashed houses. Built on a slope, the white houses, green foliage, ruined churches and walls, blue sea and bright sunshine made up the most charming picture that could be imagined. The churches were especially remarkable and interesting, and certainly repaid careful study. Here in England we had a few churches with double naves, but something of the sort was a frequent feature in Gotland, and was also found on the mainland. In the churches in the country around there were apparently two naves, but this was not really so: it was due to the peculiar system of vaulting. He might add that every church he saw in Sweden was vaulted, and the vaults partook of a domical character. Mr. Porter said that the walls of Visby were intended to safeguard a rich mercantile centre. That was the impression they gave. Yet it seemed to him that they were rather amateur fortifications, and this was perhaps shown in their many clearly evidenced alterations and additions; there was not that excellent science displayed in their disposition such as was to be found in the great fortified centres of France, but perhaps they were of earlier date than the fortifications of other European cities he had in his mind, being amended later to withstand advanced military skill. There was one aspect of the walls which Mr. Porter had only just mentioned—viz., the moat, ditch, or dyke which surrounded them. This was an immense ditch cut out of the limestone rock, and it still existed. It was threefold on the north side, and wide and spacious on the east. The inhabitants of the town evidently relied very largely on this moat (from which probably they got the material for building the walls) to keep the invaders from reaching the base of the fortifications. Mr. Porter had remarked that Visby was the one city of Gotland. That was so, and it seemed characteristic of Scandinavia generally that the population was widely spread over the ground. They were more or less a nation of peasants; not as we understood the

term in England, uneducated and working only for somebody else, but land-owners and people of importance, who had a voice in the Government, had greatly influenced the history of the nation, and really were the mainstay of the country. As was known, Sweden was to-day celebrated for its system of small holdings. For that reason the towns were not of such importance as dwelling places as they were in England; they were centres for education and commercial enterprise. It must be remembered that the population of the whole of Sweden was less than that of London, and it was remarkable how, while there were large and busy towns, the people were so well spread over the land. Old Visby itself was the centre for various foreign merchants and particular associations of people who congregated there and protected themselves by these walls against the peasant Gotlanders, and outside invaders. Perhaps but little was known here of mediæval work in Sweden; there was, however, a considerable amount that was charming and interesting. He had had the pleasure of being shown some of it by Professor Curman, of Upsala, particularly the Cathedral of Strengnäs which he had partly restored. A better example of careful restoration by one who was an absolute enthusiast about his work it would be impossible to find. The church was of very considerable size, and the whole of the vault was covered with coloured decorations. Professor Curman's method of restoration—or perhaps not so much restoration as perpetuation—was splendid. The people of Visby are very loyal. It was the anniversary of the Queen's birthday when he was there, and the national flag was flying on every tower; these blue and yellow national emblems fluttering in the breeze added greatly to the picturesqueness of the scene, and though he paid more attention to the churches of Visby than to the walls, he carried away from there a strong impression of the aspect of a fortified mediæval city which he would not have missed the opportunity of gaining, and which formed a striking contrast to the progressive cities of the mainland.

Professor BERESFORD PITE [*F.*], in supporting the vote of thanks to Mr. Porter, spoke of the peculiar and special pleasure it was to members to see their old friend Mr. Axel Haig, who was a very distinguished Scandinavian. They had always pictured a Viking as more or less like Mr. Haig, in the somewhat remote past, and besides had valued his charming drawings. The subject Mr. Porter had brought before them was very interesting, but it was scarcely artistic, except in an indirect sense, as there was no architectural style about fortifications at all; the walls of York did not differ very much from those of Visby, and the walls of Dover Castle did not vary a great deal from the fortifications of Nuremberg. If one stripped away the little detail round a particular doorway, the walls at these various places were much the same in height, scheme of military usefulness, and much about the same thickness. Visby, from what they had seen of it on the screen, might well have been some unknown English port or town. But there was much fascination about this fortification, because one wondered what on earth was the use of the towers? How did the machine work? Probably the most enlightening publication on that subject was the series of articles by Viollet-le-Duc, in the *Dictionnaire Raisonné*. That made perfectly clear why the towers were open inside. He showed the floor and the cranes for pulling up the material, and how the towers were used as military stores. He (Professor Pite) imagined the battlements of Visby were covered with hourds, and he detected the holes for the putlogs, and on the towers were the holes for the ledges for the fighting gallery outside which was covered with a roof of tile or slate. Mr. Burges understood that aspect of walled cities and fortifications, and his work at Cardiff Castle showed us what a patch of Visby might have looked like when it was in fighting trim. He would commend the whole subject to architectural students from the point of view of the purpose and usefulness of these fortifications. They were not of much use to us architecturally otherwise, as there was very little detail, and their random picturesqueness was redolent of the Battersea Park grotto order, and that was not very useful, after all. The main lesson was concerned with the entire directness and purposefulness of the whole business. It meant war and defence, and unless we took the pains to understand military science, at the best the study would not be a very practical one. But if we could open our eyes to that, and begin to realise why and wherefore these things were so constructed, we should find there were few subjects more fascinating. The town of Rothenburg, in Bavaria, still had hourds and galleries, with wooden staircases, walls, towers, and almost all the machinery of the siege itself. In some parts of Nuremberg they existed, but he did not think we had got any left at home, other than those which Burges re-created for us. But York was very interesting. One could run round the walls of York, on the top, and form a fair idea of how it worked. But he most cordially invited members of the Institute who were resident in London not to forget that we had a live fortress in London still; that if anything went wrong with the dockers, or with anybody else, we should turn our attention to the Tower, which was our military centre, and one of the few mediæval fortresses still kept in fighting trim. It was an instance of a mediæval castle used to-day for the purpose of military force, and it had been that for over eight hundred years. The Tower of London occupied very much the position with regard to an important port and the important sea trade that the fortress of Visby did. There was one broad distinction between these continental towns and our own country; the continental towns were practically independent corporations, republics, or states, and they had

to arm themselves not only against pirates and brigands, but also against their own neighbours.

MR. C. FITZROY DOLL [*F.*] said that what interested him more even than the walls of Visby was what had happened within those walls. They were to the Teutonic race what the walls of Rome were to the Latin race. Within the walls of Visby was sown the seed which under their protection germinated and grew up in time to be the greatest social power, the "Third Estate." The merchants, having suffered for a long time from the depredations of robber knights, militant bishops, and the hordes of freebooters that infested Germany and Europe generally after the first crusades, made a stronghold on the island of Gotland where they could deposit and defend their treasure with their fleet. In the Church of Santa Maria Teutonicorum in Visby was deposited the chest of the Hanseatic League, that great League with which were mixed up the people of England, in a manner which very few of us realised or had ever taken the trouble to find out. Professor Dohme, in Berlin, had remarked to him that the history of the Hanseatic League was so vast that it had even frightened Mommsen, Ranke, and Geffkens, none of whom cared to approach such a huge task. The Hansa had a bearing on our social condition, and on everything which had grown up during the Middle Ages, and the literature was so enormous that a Commission would be needed even to read the papers which are stored in the cities which formerly formed the League. There was Visby, and there were three other cities, Lübeck, Dortland, and Soest—the Sasutum of Tacitus, whence Varus led his legions never to return again—each had its Alderman, to whom was entrusted a key of the chest he had referred to. Each of these towns had a key on a shield for their arms. From that organisation, which was started at Visby, was created the whole series of factories which reached from Nijni Novgorod to Bristol and Bergen to Ghent. In London and in all the northern cities of Europe the Hanseatic League was more or less paramount as a mercantile organisation. There was no doubt that the whole of our London municipal government emanated from that combination. The Soester Schraa, or great writing, which may be seen there was the basis of the municipal law of London. In the Guildhall were preserved the documents which were written at the time, and they had been published by the historian Schultze, in Germany. The Hanseatic League even gave us our money; to this day we speak of our money as sterling, the name having come from the Hanseatic merchants, who were called "esterlings." Nearly all the guilds of London came from that organisation. He only wished that the young men in the profession would go to some of those Hanse towns in the North. They all go South, and make Italian architecture their study, only to return and erect buildings in no way suited to our climate and necessities. But if they were to go to some of these North European towns they would see there most instructive examples of the art of their forefathers and the kind of material with which some of the men with the greatest reputations, even at the present day, had filled their sketch-books. Certainly these famous old towns were the most picturesque that he knew, and they appealed, and ought to appeal, to every Englishman as the architectural expression of the land from which his forefathers sprang.

THE PRESIDENT, in putting the vote, said that these old German towns were immensely interesting historically, and immensely picturesque, but he could not support Mr. Doll's recommendation to their students to go and study there, unless it was for historical purposes. To study their art, they should go to headquarters, to France and Italy, for Gothic and Neo-classic. Professor Pite had pointed out the practical purposes for which these structures were originally designed, and, by implication, had shown how useless they were unless for practical purposes. That was a point which Mr. Porter had touched upon, and he should like to see it carried further, for the development of military fortifications was a subject which might well be studied. They had a very remarkable instance of it in the walls of Visby, and in other towns; one knew about the bastions, and the very curious plans which they arrived at in the fifteenth and sixteenth centuries. Mr. Porter's Paper was a most delightful one, and it had evidently been a labour of love to him; he had done his work very thoroughly, and had told them things which were new to many of them. Looking at the geographical position of Gotland one could understand its history, because it lay in the main sea-road for coasting ships going west and east, which was very important: its geographical position had much to do with what happened. They had also to thank Mr. Porter for the beautiful views he had shown them, and the patient way in which he had worked out the history of this dead city. There were many others—Carcassonne, Aigues Mortes, Brouage in the west of France, Veere near Middleburg, Bruges, and others—which it would well repay their students to take up and study.

MR. PORTER, in reply, said it had indeed been a labour of love to work out these few details. He did not mean to suggest, and he hoped he had not, that when he had finished with the walls of Visby, there was not enough to induce any member to go to this interesting place and tell them some more. He would suggest that Mr. Haig should read a paper on that very interesting work which was now being carried out under Dr. Ekhoff at the churches of St. Clement's and St. Nicholas—St. Clement's perhaps especially, where the foundations of three former churches had already been uncovered. But he had only just touched the fringe of the subject, and he was perfectly satisfied if anything he had said would lead others to go there.

REVIEWS.

ARCHITECTURAL DRAWING.

Architectural Drawing and Draughtsmen. By Reginald Blomfield, A.R.A. With 103 illustrations. Sm. 4to. Lond. 1912. 10*s.* 6*d. net.* [*Cassell & Co., Ltd.*]

Mr. Blomfield's new volume, *Architectural Drawing and Draughtsmen*, is, like all his previous work, a thoroughly satisfactory and almost exhaustive treatise on the subject he is dealing with. It possesses, too, the great advantage of close association with the still more important work he has already done. An account of draughtsmanship could scarcely be thoroughly worked out except by one who had an adequate knowledge of the phases of practical art with which it had been associated. Nor does his method of dealing with his subject leave anything to be desired: he has arranged it according to the nationalities which were the most conspicuous in the development of the art, both practical and pictorial, showing alike the phases which were manifested in each case, the relation between building and drawing, and the influence exercised by one country over another. The illustrations are well selected and admirably reproduced, and the book is one which cannot fail to exercise a valuable influence both on drawing and design. I shall assume that all who take an interest in architecture or draughtsmanship will seize the opportunity of closely studying the work; and propose to put on record the thoughts which have occurred to me in reading it, whether in assent or dissent from the views set forth or implied.

The primary impression on the reader will be (certainly it has been so in my own case) that of the exuberant inspiration of the Renaissance; of a wealth of imagination which could not be content with realisation in concrete form, but welled over into pictorial invention, often uncontrolled by considerations of the practical: sometimes weird, bizarre, and fantastic, but always suggestive and interesting. It would be scarcely an exaggeration to speak of the new movement as an intoxication which required Bacchanalian orgies as an outlet, or to compare its developments to those of another art admittedly free from practical restrictions. Such drawings as Piranesi's *Carceri* series can scarcely fail to recall the wilder fantasies of Berlioz or Grieg. (I wonder, by the way, why the author failed to mention Méryon, the French etcher, whose work shows some affinity with that of Piranesi. The comparison is specially interesting, seeing that, in the case of the Frenchman, genius which is "akin to madness" seems to have definitely passed the border-line of which the Italian just stopped short.) It is fortunate too for us that the conditions of an earlier time gave opportunities for the display of this exuberance which are denied to our own age: the backgrounds of pictures, the scenery of the stage, especially for the presentation of masques, the title-pages of books,—all afforded scope for its display. Even these pictorial safety-valves proved insufficient; and many actual buildings, started on a scale which the extravagance of the impulse dictated, but left incomplete or subsequently reduced in size, bear witness to a *megalomania* which gratified one inspired generation and impoverished its more prosaic successors. No one has understood more thoroughly or brought home to us more vividly the force of the Renaissance as displayed in architectural or quasi-architectural design than the author of this book.

It is scarcely surprising that I, brought up in an heretical school and incompletely purged of the consequent taint, should differ from Mr. Blomfield in certain points which, after all, are more or less irrelevant to his main argument, and so slight as to be difficult to define. I must therefore allow myself to be somewhat discursive.

There is no doubt that a majority of Gothic buildings, especially in this country, present a somewhat casual appearance and show little trace of organised design; and there is often so great a charm attaching to such incoherent effects that we are apt to think that they represent the essence rather than the accidents of the style. Indeed, so far was theory, based on this misunderstanding, at one time carried that a reviewer in the *Quarterly*, some forty years or more ago, maintained that it was only necessary to dismiss the designer and trust to the fortuitous concurrence of self-inspired masons to recover the conditions of the greatest of mediæval achievements. Nevertheless, I believe that this impression of uncontrolled and unorganised effort is misleading; that it is largely due to circumstance, to the Black Death of the fourteenth, and, in a less degree, to the Civil Wars of the fifteenth century, which interfered with the full realisation of the ideal of the Middle Ages, arrested the completion of coherent design, and left to the imperfectly trained artificer work which, under more favourable conditions, would have been developed by an organisation of more accomplished workmen. It seems possible, notwithstanding the paucity of records, to detect a leading distinction between the two strains of work,—between the casual or vernacular, and that which is well ordered and fully considered: and of the latter there is a sufficiency in England, a superfluity on the Continent, to establish the fact that Gothic architecture at its best carries full internal evidence of deliberate and mature design. Mr. Blomfield has shown us clearly what methods the monuments of the Middle Ages indicate, and has put on record the small amount of documentary evidence which survives. It is, indeed, strange that so much has been hid in the mist of an antiquity not, after all, so very remote. I am inclined to differ from his conclusions only so far as this: I can recognise but one distinction between the mediæval and the modern method,—that the designer was then on the spot and closely associated with the workman, and that, having to deal with

organised and trained artificers, the control he was called on to exercise was probably far less onerous and extensive than that which is required of the modern architect. But I cannot admit that this suggests the possibility of any beneficial change of method in the present, the former conditions being irrecoverable.

What was the function of those few whose names have survived as architects, apart from that of the master-mason, it is not easy to determine. I think, however, that at least in one case, that of William of Wykeham, it must have been more than that of mere patron or paymaster, and for these reasons: Wykeham had been the King's Surveyor at an early age, and before he had embarked on a definitely ecclesiastical career: the work executed under his supervision at Windsor shows a definite affinity to that of his later years: this later work bears the common impress of a marked individuality; and the latest executed at the charges of his estate, either in his extreme old age or, as some maintain, after his death, shows a distinct inferiority to that which preceded it. It could, indeed, scarcely be an exaggeration to assert that it was disgracefully scamped.

On the subject of the growth of the Romantic movement and the lapse of the classical tradition in architecture, Mr. Blomfield has some interesting pages. I should, however, be disposed to differ from him in respect of some of his conclusions. In the first place, I find it difficult to believe that Pope exercised any influence in the direction either of the Romantic movement or of the revival of Gothic. For the latter there seems to be nothing to show except a mild flirtation with the artificial ruin, evidenced by a "grotto" at Twickenham: for the former, he seems to have done more than any writer of the eighteenth century to rivet the chains of classicism: indeed, his influence on these lines was felt even in the earlier years of the nineteenth. Gray, on the other hand, though in the main an exponent of the classical tradition, gives a decided lead in the other direction. His letters to Walpole show that he was a student of Gothic architecture: he contributed to a history of Ely Cathedral, and came so far under the influence of the Romantic movement in literature as to think it worth while to learn Icelandic, and in later life to try his hand on poems based on Scandinavian and early British examples. He was, moreover, an ardent lover of picturesque scenery—and so marks the parting of the ways more perhaps than any other figure in literature.

Mr. Blomfield appears to me to attribute the interruption of the classical tradition in architecture exclusively to the new heresy, which he says has "retarded the development of architecture in the country by at least a hundred years." I should, myself, incline, even accepting his view that the Gothic revival had in itself been altogether an evil, to put the blame at least as much on the later exponents of the classical school as on the innovators. Had it not been that the former was beginning to loose its hold, it is, to me, inconceivable that such freaks as Batty Langley's Gothicisation of the "Orders" and Walpole's Strawberry Hill in architecture, or Macpherson's *Ossian* and the *Castle of Otranto* in literature, could have led to any considerable innovation. It seems to me that, after the influence of Wren had worked itself out, the phases that succeeded, though productive of much that possessed charm, had little of the quality which gives promise for the future. It was for the most part effete and decadent, and led by easy stages to a degraded vernacular which could not be expected to survive.

In this respect the development was not dissimilar to that which somewhat earlier took place in literature. Readers could no more continue to put up with stale classical tricks such as that of personification, carried by Vergil to the brink of insincerity, but degraded by the later classicists to an artificiality which is thoroughly absurd,—with Gray's "creeping Cain" or Collins' "brown Exercise," than in architecture to accept as features of a living art the unmeaning paraphernalia of an effete classicism. In art, as in politics, a point may be reached when reformation may be impossible and revolution inevitable; and this appears to me to have been the condition both of architecture and literature towards the close of the eighteenth century. If so, and always presuming that the future lies exclusively with the classical idea, the new motive introduced may in the long run prove to have been the best if not the only way out of what had become an *impasse*; and classical architecture may ultimately have to be grateful for an interregnum which enabled it to start again with a new vitality.

In conclusion I may remark that Mr. Blomfield carefully avoids producing the impression that draughtsmanship and architecture are interchangeable terms, and is sufficiently aware of the self-illusion which accomplishment in drawing may produce—a danger indicated by Burges' sarcasm on a contemporary, here recorded, that it was "a pity he could not build his cross-hatching."

BASIL CHAMPNEYS.

NOTES ON THE TOWN PLANNING ACT MEMORANDUM.

By RAYMOND UNWIN [*F.*]

ONCE more, at the close of the third year since the passing of the Housing and Town Planning Act, an interesting Memorandum has been issued by the Local Government Board giving particulars of the work accomplished under the Act, particulars which deserve some notice and analysis. It will be well to take separately Part I., which deals with Housing, and Part II., which deals with Town Planning.

PART I.

One of the most satisfactory results of the working of the Act is the number of houses which have been put into proper repair owing to the new powers conferred upon local authorities. Under Section 15 it is provided that in houses up to a certain maximum size, varying from about 6*s*. 2*d*. per week in country districts up to 15*s*. 6*d*. per week in London, there is to be implied in every letting an undertaking that the house during the whole period of the letting shall be kept by the landlord in all respects reasonably fit for human habitation; and the local authority is given power to see that this condition is carried out. Under this clause there have been repaired, since the Act came into force, 42,534 houses. Sections 17 and 18 empower the local authorities to make closing orders for any house which is found to be unfit for human habitation, which closing orders can be withdrawn if the house is put into order. There have been put into satisfactory repair as a result of these clauses altogether 30,047 houses. A total of 72,581 houses have thus been put into satisfactory repair as a direct result of the Act.

In addition to this, the closing of houses which were in such a condition that the owners did not deem them worth repair, has removed a great number of unhealthy dwellings which the country is well quit of. Altogether, under Sections 15, 17, and 18, there have been closed or demolished, either voluntarily by the owner rather than execute repairs, or under demolition orders by the local authority, a total of 11,939 houses.

When, however, we turn to the figures relating to the building of new houses, while undoubted progress has been made, and the numbers of houses taken in hand to build are much higher in the last year than in the previous years, the total figures fall very far short of the number demolished. Apparently there have been built, or commenced to be built, by local authorities during the three years since the Act came into force, in urban areas 2,666 houses, in rural areas 398 houses, making a total of 3,064, showing on the face of it as the result of the working of the Act nearly 12,000 houses closed and only a little ove· 3,000 built.

The working of the Act has, however, in another manner stimulated the building of cottages. If we turn to Table 6 in the Memorandum, we shall find that the figures for the money advanced by the Public Works Loans Commissioners to Public Utility Societies, companies, or private persons under the Housing of the Working Classes Acts have risen very rapidly since the passing of the 1909 Act. The figures were rising previously, and it is therefore not possible to fix exactly how much of the increase is due to the passing of the Act, but it is probably safe to say that £250,000 of the increase is due to the Act. We have no figures showing how many houses this represents, but it would not, very likely, be less than 1,500, so that probably a total of between 4,500 and 5,000 new houses may be credited to the working of the Housing and Town Planning Act. So far as the houses have been built by the local authorities, a large proportion of them are probably finding accommodation directly for the same class of people that have been displaced by the closing and demolition of buildings. Probably this is also true indirectly of houses that have been erected through the Public Works Loans Board, only a proportion of which will represent the smaller type of cottage. It is, however, when we analyse the figures for the rural districts that there appears to be some cause for anxiety. Here apparently, under Sections 15, 17, and 18 there have been closed or demolished altogether 3,446 houses, whereas the total provided during the period under the Act has been 398. Thus nearly nine houses have been closed for every house built; and when we consider the great difficulty of erecting houses in rural districts to be let at rents which will even approximately cover the cost of erection, and consider further that the Public Utility Societies who have been borrowing largely from the Public Works Loans Commissioners have not hitherto been able to do much in rural districts, there appears some ground for the contention that further effort is needed to secure adequate housing accommodation in country areas. There are no figures to show what is the need in this matter, but some housing reformers of wide experience estimate that 100,000 houses may be needed at the present moment in rural areas properly to provide for the population. It must not, however, be supposed that all the good resulting from the Housing and Town Planning Act appears in these figures. In the matter of repairing houses, it is probable that a very large number are put into good repair by the owners or their agents in order to avoid having notices served upon them by the local authorities; thus the stimulus of the Act will extend over a much wider area than the figures show, extensive as this is, and the total amount of useful work in putting buildings in repair directly due to the Act must be very large. Also the President of the Local Government Board, in his recent speech at Bath, stated that a very large number of houses had been built in many rural areas outside the Act.

PART II.

Turning now to Part II, Town Planning, we find a growing activity among local authorities, but that after nearly three years no single scheme has yet become an accomplished fact; 3 have reached their final stage and are awaiting the approval of the Local Government Board. Authority has been given by the Board to local bodies to prepare 17 schemes, and to one authority to adopt a scheme; 12 further applications have been received for permission to prepare schemes; 14 local authorities have issued preliminary notices with a

view to applying for authority, while 35 others have taken preliminary steps towards the issue of these notices, making a total of 82 schemes actually in progress, and the Board have knowledge of 54 other schemes in preparation. It looks therefore as though there were 136 schemes altogether in various stages of development, in which 124 different local authorities are concerned. Considering how new this subject of Town Planning is to our local authorities, how much the work is in the hands of their officials, who already have enough routine work to pretty well fill their time, and how comparatively few people are yet qualified to handle the problem, this progress, though possibly slower than some hoped, must be admitted to be satisfactory progress in the right direction.

The disappointing element in the figures is the one "Authority given to adopt a scheme." It was hoped that owners and Public Utility Societies would under the Town Planning Act be able to secure many of its advantages by comparatively simple schemes submitted for adoption by the local authority. Unfortunately the Act provided for no adequate simplification of procedure in the case of such schemes, and it is evident that for one reason or another this part of the Act is not proving as valuable as was hoped. From the housing point of view this is unfortunate, because it is in the development of estates for housing purposes on what have come to be known as Garden City lines that we have mainly to look for improved housing accommodation. Such schemes are, at present, much hampered in their work because of the difficulty of securing the modifications in the ordinary local by-laws which are required to adapt those by-laws to such a system of development; and it would certainly be very helpful if the President of the Local Government Board could make provision for simplifying the procedure in connection with such schemes. It is also very desirable that some further provision should be made for dealing with building operations during the preparation of a scheme. Probably both these points could be met by providing that building operations on estates of single owners, or groups of owners, where the interests of adjacent property are not affected other than they would be by building carried on apart from any scheme, could be regulated by agreements made between the owners and the local authorities, which agreements should be submitted to and approved by the Local Government Board. In cases where Town Planning schemes were being prepared, or where the Local Government Board deemed it desirable that a scheme should be prepared, such agreements would be temporary in their character, and would be superseded by the scheme when it came into force.

It is only necessary to peruse some of the schemes which have reached an advanced stage to realise that they will confer an immense boon on the districts with which they deal, and one can only hope that the progress which the last year has shown will be maintained and accelerated until the development of all growing areas is brought under the beneficial influence of a Town Planning scheme.

CORRESPONDENCE.

The Lighting of Picture Galleries and Museums.

54 Bedford Square, W.C.: 5th December 1912.

To the Editor, JOURNAL R.I.B.A.,—

DEAR SIR,—I have read with much interest the Paper in your issue of the 23rd November on the Lighting of Picture Galleries and Museums, by Mr. S. Hurst Seager. I was present at the R.I.B.A. at both Mr. Weissmann's and Mr. Edwin T. Hall's Papers on this subject, and, like Mr. Seager, have visited many galleries in the hope of finding one perfectly lighted. As Mr. Seager says, the crux in the lighting of galleries is the trouble of reflections in the picture glass, and he gives a section through a gallery showing a means of lighting which he claims will make reflection impossible.

There are, I think, two objections to his scheme. The first is that it is unreasonably extravagant. He requires that his gallery shall be 44 feet wide, and criticises the Mappin Art Gallery as not being wide enough, though it is only 5 feet less than his own in width. Such a design means that for every two pictures measuring 8 feet wide each, a floor space of 352 square feet would be required. The second objection is that a very troublesome reflection in the picture glass is that of the frames and pictures on the opposite wall. They must, of necessity, be in a strong light, and a light-toned picture facing a dark one will be reflected to a very troublesome extent.

It seems to me that when we come to the designing of a gallery we must assume a width considerably less extravagant than anything like 44 feet. I suppose nearly all designing is a matter of compromise, and a minimum width so great as that Mr. Seager proposes is impracticable in forty-nine cases out of fifty. Taking 15 to 16 feet as the average distance from which to view a picture, I should suggest that galleries be made 30 to 32 feet wide, with pictures hung on all the walls. To prevent the trouble of reflection of the skylights themselves, they should be set out on principles such as Mr. Seager quotes, following the laws of refraction of light. To prevent the reflection of the gilt frames and pictures on the opposite walls I would suggest that screens about 7 or 8 feet high should be placed down the centre of the gallery. These need not be continuous, but could be broken every 10 or 12 feet by intervals of 3 or 4 feet, and should be of some dark colour—dull red velvet for choice—to absorb the light. They might be used to display a few small pictures, but this should be done sparingly or

their object is defeated. I do not think such screens would be so unsightly, in a room of this width, as to make them objectionable, while I feel sure they would serve their purpose in preventing reflection in any pictures hung on the line. Seats could be arranged, if necessary, down the centre of the gallery, with the screen above them. Where pictures face the gaps, it would only mean that the spectator would have to move a foot or two to one side or the other in order to get a view of the picture free from reflection. In existing galleries where the width does not admit of a central screen, I think the substitution of dark frames for gilt, wherever practicable, would considerably lessen the trouble of reflection.

I think Mr. Seager has made too much of the question of light on the floor. This can always be counteracted by staining the floor with a dark dead stain which should not be polished; a dark floor is essential in any gallery, whether top or side-lighted. I am architect to the new rooms in the Gallery belonging to Dulwich College, in which Mr. Seager says that Soane's old galleries, with their high lantern lights, are lighted on a more scientific principle than the new ones. I cannot see any scientific principle in Soane's method at all. True, there is no bright light on the floors; but it is equally true that the only portions of the galleries that are at all effectively lighted are the portions of the walls higher than 11 feet above floor level. I have recently put a skylight over the central octagonal lantern in the old gallery; the new skylight, which replaces the flat plaster ceiling of Soane's lantern, is solid in the centre so as to reduce, as far as possible, the light thrown on the floor. One has only to compare this room with the other similar rooms lighted only by Soane's lantern to see that there is no comparison as to which is the better lighting.—Yours faithfully,

E. Stanley Hall [*A.*].

Books Received.

The English Fireplace: A History of the Development of the Chimney, Chimney-piece, and Firegrate, with their Accessories, from the Earliest Times to the Beginning of the Nineteenth Century. By L. A. Shuffrey. Illustrated by 130 collotype plates from photographs chiefly by W. Galsworthy Davie, and many other illustrations. Sm. 4o. Lond. 1912. 21*s.* net. [B. T. Batsford, 94 High Holborn.]

Old Houses and Village Buildings in East Anglia, Norfolk, Suffolk, and Essex. By Basil Oliver [*A.*]. Illustrated by Collotype Plates from photographs specially taken by Horace Dan, Sydney A. Driver, and others, with numerous illustrations in the text. Sm. 4o. Lond. 1912. 21*s.* net. [Batsford.]

The Art and Craft of Garden Making. By Thomas A. Mawson [*Hon. A.*]. Fourth Edition. Fo. Lond. 1912. 50*s.* net. [Batsford.]

English Homes of the Early Renaissance: Elizabethan and Jacobean Houses and Gardens. Edited by H. Avray Tipping, M.A., F.S.A. Fo. Lond. 1912. Two guineas net. ["Country Life," 20 Tavistock Street, Covent Garden, W.C.]

Gardens for Small Country Houses. By Gertrude Jekyll and Lawrence Weaver. 4to. Lond. and New York. 1912. 15*s.* net. ["Country Life," 20 Tavistock Street, Covent Garden, W.C.]

9 Conduit Street, London, W., 21*st December* 1912.

CHRONICLE.

A New Allied Society.

At the General Meeting of the Institute on Monday, 16th December, the Secretary announced that the Council, in the exercise of its discretion under By-law 78, had admitted to alliance with the Institute the South Australian Institute of Architects. This Institute, whose centre is Adelaide, was founded in 1886 and incorporated in 1890. Its membership numbers twenty-five Fellows and fifteen Associates. Under the new rules contemplated by the South Australian Institute, the articles of apprenticeship of pupils in its district will have to be registered with the Institute, and the date of registration will be taken as the date of commencement of apprenticeship. No articles will be registered until the pupil has passed the Junior Public Examination of the University, or its equivalent. Candidates for Associateship must submit Testimonies of Study required by the R.I.B.A., and pass an examination following the lines of the R.I.B.A. Intermediate and Final. This latest addition brings up the total of the Allied Societies to twenty-eight, distributed as follows: nineteen in the United Kingdom, four in Australia, three in South Africa, one in Canada (with which are federated all the provincial associations), and one in New Zealand.

The London Society.

From T. Raffles-Davison [*Hon. A.*].—

It is just twelve months since the formation of the London Society was suggested in the columns of the Institute Journal, and already its influence has been exerted in many directions. Its membership is already considerable, and is rapidly extending. The Society should make a special appeal to architects, and it is hoped that all London architects will give it their support by becoming members. The Marquis of Salisbury and the Hon. W. F. D. Smith have just been included amongst the Vice-Presidents. The great ground landlords of London are represented by the Earl of Cadogan and others, while the Government may be said to be represented by the Rt. Hon. John Burns. Lord Blyth, Lord Balcarres, Lord Claud Hamil-

ton, Lord Alverstone, Lord Alexander Thynne, Sir Edward Poynter, P.R.A., Sir Aston Webb, R.A., Prof. Reginald Blomfield, A.R.A., Sir J. Williams Benn, Captain Jessel, M.P., Sir Melville Beechcroft, Sir J. Prichard Jones, Sir John Wolfe Barry, Sir George Alexander, &c., are names which indicate the wide support the Society is receiving irrespective of party or profession. It is hoped that the Mansion House meeting on the 13th of January, at which the Lord Mayor will preside, may bring home to the public some realisation of the important part which this Society of London citizens is destined to take in the future development and beautification of London.

The Safety of St. Paul's Cathedral.

Mr. Mervyn Macartney [*F.*], Surveyor to the Fabric of St. Paul's, has again sounded a warning note as to the danger to the Cathedral of allowing a tram subway to be constructed within a few feet of its east end. He points out that the distance from the end walls of the Cathedral to the side of the proposed tunnel is 65 feet, and the bottom is only 6 feet above the footings at their deepest point. St. Paul's stands on a thin bed of marl under which is over 40 feet of loose sand-gravel held together by the presence of water.

"If this is tapped in any way," says Mr. Macartney in a letter to *The Times*, "subsidence is bound to follow, with what peril to the Cathedral I care not to predict.

"Tunnels of any kind would tend inevitably to disturb the water lodged in the subsoil and cause it to drain off. And it is the fear of this as much as of the inevitable intermittent vibration of subterranean traffic which causes the Dean and Chapter to make this protest.

"In brief, as the Cathedral stands, with its vast untied spaces, its enormous weight brought to earth by a few piers, and its exact equilibrium, it is safe only so long as the subsoil remains undisturbed.

"No proposal I have heard of short of under-pinning the whole area of the Cathedral and taking the foundations down to the clay some 50 feet below the present foundations would, in my opinion, safeguard the building."

The Parliamentary Committee of the London County Council state that the Highways Committee were not only advised when the scheme for the construction of these tramways and of the subway was under consideration in 1911 that there was no ground for apprehension that the construction of the subway would involve any risk to the Cathedral, but that the chief engineer had reported to them that the view previously held by him had been strengthened by additional facts which had since come to light, and that, moreover, in his opinion, there was no danger from any vibration from the working of the tramcars. The Highways Committee state further that the question was most carefully considered in connection with the promotion of the Act which authorised the construction of St. Paul's Bridge, and the conclusion was then arrived at that no risk to the Cathedral was involved.

Mr. Macartney has lately discovered some old letters written in the year 1831 and at other dates, from which it appears that the opposition of Mr. Cockerell (the then Surveyor to the Cathedral) to a proposal to construct a sewer on the south side of the Cathedral had the support of the two famous engineers, Rennie and Brunel. Extracts from these letters were published in *The Times* of the 17th December. A report was eventually drawn up by Rennie, Robert Smirke, and Cockerell, in which they stated that, however carefully the work was carried out, it would be impossible to prevent some degree of motion from taking place in the stratum of sand and gravel, either during the construction of the sewer, or at a future period in consequence of it. There is evidence to show that Brunel not only had a hand in this report, but that he and Rennie also presented another report soon afterwards on the same question. The result was that the sewer project was finally dropped.

A conference was held last Tuesday between representatives of the Dean and Chapter of St. Paul's and representatives of the Parliamentary and Highways Committees of the London County Council to discuss the possibility of withdrawing from the Council's Bill, which was recently presented to Parliament, the clause which proposes to construct a tramway subway under St. Paul's Churchyard. No definite decision was come to, but the matter is to be considered by the Parliamentary Committee early after the Christmas recess and will come before the County Council in due course.

The New School of Architecture at the National University of Ireland.

Professor W. A. Scott [*A.*], A.R.H.A., has sent to the Institute a copy of his address delivered on the occasion of the meeting held in connection with the establishment of the School of Architecture at the National University of Ireland. The idea of this school originated with the Royal Institute of the Architects of Ireland some years ago, when the constitution of the National University was under consideration, and it is due to their efforts that the School has become an accomplished fact. At the inaugural meeting, which was presided over by Mr. Albert E. Murray [*F.*], President of the Irish Institute, the Lord Lieutenant of Ireland was present, and at the conclusion of Professor Scott's address, which is briefly summarised below, the meeting, on the motion of His Excellency, resolved, "That the establishment of a Chair of Architecture in the National University of Ireland was an undoubted benefit to the country, by affording facilities for the study and the encouragement of the ancient art of architecture."

Professor Scott, in the course of his address, described the aims, objects, and curriculum of the new school, and showed what had been done in England, especially at Liverpool and London, to give

the profession of architecture a University hall-mark. In France and America, he pointed out, the relative superiority of an architect's position was a direct result of the recognition of the fact that architecture, like all great, ennobling, and responsible callings, required knowledge, preparation, and study. A University training necessitated (1) a good general education, without which the student could not commence his special studies; (2) it enabled him to get a comprehensive idea of what architecture meant, a general grasp which would be supplemented afterwards by his specialised experiences; (3) it enabled him to mix with and to hold his own with men destined for his own and other professions, and this enlarged his sympathies with and understanding of the great facts of life. The student in their School of Architecture would have first to matriculate in the University. He would have to follow a regulated course of study extending over a period of three years, and would be required to pass three examinations, one in each year. The first year's work would include architectural history, architectural drawing and model and free-hand drawing, mathematics, mathematical physics, experimental physics or chemistry, and a modern Continental language. The second and third years would be taken up with the more advanced stages of the same subjects, and include, in addition, mechanics of structure, modelling, painting, or decoration, and sanitary engineering. In the second year designs would be made, and measured drawings of buildings. At the end of the third year the student would take up practical architectural work, engaging himself for this purpose in the office of a practising architect for not less than two years. Thus five years from the time of his first entering the college would be occupied by the student before he could present himself for his degree examination. All through the course the student would have to satisfy the authorities that he was complying with the regulations, and give consistent evidence of solid work. The courses of the school were in harmony with those approved by the R.I.B.A. Board of Architectural Education, and it would be one of their aims to get in touch with the Board. It was only in the fitness of things, said Professor Scott, that Dublin should become the centre of a flourishing "School of Architecture": they had so many examples of elegant buildings erected by their forefathers, tastefully and skilfully designed, displaying refinement and thought, and remarkable as indicating the desire of those who had gone before them to attain the highest standard of artistic excellence and culture.

Preservation of Ancient Monuments and Historic Buildings in Great Britain.

The report of Mr. C. R. Peers, the Inspector of Ancient Monuments, for the year ending March 31 last, has been issued as a Parliamentary Paper [Cd. 6510]. Lord Beauchamp, the First Commissioner of Works, prefaces the report with the following statement showing the arrangements made for the administration of the Ancient Monuments Protection Acts, and the considerations which have led him to ask for additional powers:—

In the first place the existing Acts are purely permissive in character. The State cannot undertake the guardianship, or arrange for the protection, of any monument, except with the consent, and indeed by the desire, of the owner.

But, when once the State has assumed control, the monument is thenceforward protected from damage or destruction by any persons whatsoever. The owner himself is deemed to have relinquished his rights of ownership so far as relates to any injury or defacement of the monument, and may be dealt with as if he were not the owner. Further than this, the Commissioners of Works are bound to maintain the monument out of such moneys as may be provided for the purpose by Parliament; the expression "maintain" includes "the fencing, repairing, cleansing, covering in, or doing any other act or thing which may be required for the purpose of repairing any monument or protecting the same from injury or decay." It is obvious that the cost of such maintenance must vary considerably in different cases; but the principles upon which the Commissioners are proceeding are to avoid, as far as possible, anything which can be considered in the nature of restoration, to do nothing which could impair the archæological interest of the monuments, and to confine themselves rigorously to such works as may be necessary to ensure their stability, to accentuate their interest, and to perpetuate their existence in the form in which they have come down to us.

It is hoped that in this way the various monuments throughout the country, in the charge of the Commissioners, will become object lessons of the manner in which such remains should be treated, and will thus possess an educational, as well as an archæological and artistic value.

To advise and assist them in this respect is the duty of the Inspector of Ancient Monuments, and the work itself is carried out by a special staff which has now been created for the purpose and which works in the closest co-operation with the Inspector and can do nothing except with his approval. It may, I think, therefore be claimed that the branch of the Office of Works entrusted with the administration of the existing Acts is efficiently organised for the work it is required to perform.

This being so, it is gratifying to be able to say that the number of monuments of which the State has assumed, or has been asked to assume, the guardianship is increasing rapidly, as owners are beginning to realise the purposes of the Acts. At the same time, cases are frequently being brought to my notice of monuments which are suffering from neglect or threatened with actual damage or destruction. Some of these have been brought clearly to the notice of the general public, and it is evident that considerable interest is now taken in the subject, and that that interest is rapidly growing; this very fact, however, tends in some degree to intensify the danger, as there can be little doubt that in some cases the threat of destruction or removal is employed with the object of creating a fictitious value. Cases such as these, however, are not of frequent occurrence, and the danger is, perhaps, sometimes more apparent than real; far more numerous are the cases in which monuments are suffering merely from neglect, and are being allowed slowly to fall into decay because the owner is unwilling himself to preserve them or to place them under the protection of the State.

It is, in my opinion, most desirable that the State should have power to intervene in such cases, and it is with that object that I am seeking further powers in the present Session.

Mr. Peers states in his report that the number of monuments now under the care of the Commissioners of Works is 116, and he gives details of the works of reparation carried out on various buildings during the period under notice. Complete series

of 12-inch by 10-inch photographs have been made of monuments newly brought under the Acts, to form a record of their condition when they came under State protection; a second series is to be added showing the monuments after repair. Plans are being prepared in every case, with a view to publication in a series of official guides. The Report includes short descriptions of monuments lately taken over, together with schedules of ancient monuments and historic buildings in Great Britain now in charge of the Commissioners. Mr. Peers says that a serious obstacle to the adequate protection of ancient buildings is that so far the prevention of decay in stonework is in the experimental stage. A mass of material is, however, becoming available, and he suggests the publication of an official handbook on the subject.

New Delhi.

In the House of Commons on the 10th inst. Mr. KING asked the Under-Secretary for India whether an eminent architect, other than Mr. Lutyens, had visited India in connection with plans for the new Delhi; whether this architect was consulted by the Viceroy and reported to him in favour of Indian craftsmen being employed in the new Delhi; whether the expenses of this architect's journey were paid by the India Office; and whether, seeing that there was a conflict of expert opinion as to the manner and style in which the new Delhi should be built, further authorities would be consulted before a decision was taken.—Mr. H. BAKER, who replied, said that Mr. H. V. Lanchester was engaged to pay a visit to India as a consulting expert to advise as to the site for the new city of Delhi, his expenses being paid by the India Office. The further question of the construction of the buildings had yet to be decided, and the Secretary of State was not prepared at present to make a statement on the subject.

Mr. KING asked whether the Viceroy, the Government of India, or the India Office was to decide the question of the architects and style of architecture to be employed in the buildings of the new Delhi.—Mr. H. BAKER: The final decision rests with the Secretary of State in Council.

Mr. KING: Will the pledge given by the Under-Secretary of State for India in the course of the Indian Budget, that there would be an open competition for these buildings, be carried out?—Mr. H. BAKER: If a pledge was given I am sure it will be carried out.

Westminster Hospital Site.

At the same sitting, Sir H. CRAIK asked Mr. Wedgwood Benn, as representing the First Commissioner of Works, if he would say what power the Government had in respect of the site now occupied by the Westminster Hospital; and if, in the event of the removal of the hospital, that power would be exercised in order to secure that the site should be used in a manner suitable to the dignity of the situation and so as to provide for the highest public advantage in the future.—Mr. WEDGWOOD BENN: The site cannot be used for any other purpose than that of a hospital without the consent of the Crown; and there are various restrictions as to buildings. The Government has the subject under careful consideration from the points of view suggested by the hon. member.

The King Edward Memorial.

Mr. Wedgwood Benn stated in the House of Commons last Thursday that the King had approved a proposal that the statue to his late Majesty King Edward should be erected between the Duke of York's Column and Waterloo Place. At a meeting of the General Committee held at the Mansion House it was agreed to adopt a scheme based upon this proposal. The statue of Lord Napier, which occupies part of the site, will be removed to Trafalgar Square close to the memorials to Nelson and Gordon.

Summer School of Town Planning.

In view of the success of the first Summer School of Town Planning held at the Hampstead Garden Suburb in August last under the auspices of the University of London, it has been decided to hold a second Summer School next year at the same centre. It will last for a fortnight, commencing 2nd August and continuing till 16th August, and during that time lectures and demonstrations on Town Planning and subjects practically connected therewith will be given by some of the leading authorities. Last summer certificates were awarded to the students by the Extension Board of the London University, and it is stated that a number of architects and engineers have already found these certificates of great advantage. The Hampstead Garden Suburb, the 400 acres extension of which forms a great portion of the Town Planning Scheme recently submitted to the Local Government Board by the Finchley District Council, makes an ideal centre for a study of this kind. The practical difficulties which town planners have to overcome can here be studied on the site as they actually occur, and the lectures are rendered of considerably more value by constant illustration of outdoor practice. The School will, as before, be specially adapted to the needs of municipal engineers, architects, and surveyors. Particulars can be obtained upon application to the Hon. Secretary, Mr. J. S. Rathbone, The Institute, Hampstead Garden Suburb, London, N.W.

Whitgift Hospital, Croydon.

The further widening of North End, Croydon, near the Whitgift Hospital, has been again discussed by the Borough Council during the past week, with the result that the old Elizabethan almshouses, as far as that authority is concerned, are

now saved from demolition. The Council adopted by thirty votes to eighteen a plan of widening which will carry the new line of frontage across to the other side of the road opposite the hospital, thus leaving it intact. The scheme is estimated to cost £164,000.

St. Bartholomew's Hospital.

Mr. ROWLAND PLUMBE [*F.*], writes:—"Referring to the obituary notice of the late Mr. E. B. I'Anson, in the Institute JOURNAL for the 7th December, I think it desirable for the sake of accuracy to inform you that the designs which were prepared for the rebuilding of St. Bartholomew's Hospital by Mr. I'Anson in conjunction with myself, were not carried out. As a matter of fact, the hospital proper has not been rebuilt."

THE EXAMINATIONS.

The Final: Alternative Problems in Design.

In accordance with the regulations of the Council, six further problems in Design set by the Board of Architectural Education for students preparing for the Final Examination are hereinbelow published.

Instructions to Candidates.

1. The drawings, which should be on uniform sheets of paper of not less than imperial size, must be sent to the Secretary of the Board of Architectural Education, Royal Institute of British Architects, 9 Conduit Street, London, W., on or before the dates specified below.

2. Each set of drawings must be signed by the author, and his name and address, and the name of the school, if any, in which the drawings have been prepared, must be attached.

3. All designs, whether done in a school or not, must be accompanied by a declaration from the student that the design is his own work and that the drawings have been wholly executed by him. In the preparation of the design the student may profit by advice.

4. Drawings for problems (*a*) are to have the shadows projected at any angle of 45° in line, monochrome, or colour. Drawings for problems (*b*) are to be finished as working drawings. Lettering on all drawings to be in a clear scholarly character.

Subject VII.

(*a*) A Monumental Staircase and Vestibule to a large Museum. Scale of drawings 8 feet to 1 inch with two ½-inch scale detail sections.

(*b*) A Village Inn with not more than eight bedrooms. The site, which is not a corner one, has an 80 feet frontage with no lighting available on either side. Scale of drawings 8 feet to 1 inch with ½-inch scale details.

Subject VIII.

(*a*) A Covered Carriage Entrance to a large Hotel built in stone. Drawings required: ⅛-inch scale key elevation of the hotel façade and ½-inch scale detail drawings of the entrance.

(*b*) Design for a Gatehouse to a College. Scale of drawings 8 feet to 1 inch with ½-inch scale details.

Subject IX.

(*a*) A Monument in a Public Place containing one or more Fountains commemorating the Bringing of Water to a town. Drawings to ½-inch scale with one general plan of the place to $\frac{1}{32}$-inch scale.

(*b*) A Design for a Bank in a small Country Town on a corner site. Scale of drawings 8 feet to 1 inch with ½-inch scale details.

Dates for Submission of Designs in 1913.

	Subject VII.	Subject VIII.	Subject IX.
United Kingdom	28th Feb.	30th April	30th June
Johannesburg	30th April	30th June	30th Aug.
Melbourne	31st May	31st July	30th Sept.
Sydney	31st May	31st July	30th Sept.
Toronto	31st March	31st May	31st July

MINUTES. IV.

At the Fourth General Meeting (Ordinary) of the Session 1912–13, held Monday, 16th December, 1912, at 8 p.m.—Present: Mr. Reginald Blomfield, A.R.A., *President*, in the Chair; 24 Fellows (including 8 members of the Council), 18 Associates (including 1 member of the Council), 5 Licentiates, and several visitors—the Minutes of the Meeting held 2nd December having been already published, were taken as read and signed as correct.

The following members attending for the first time since their election were formally admitted by the President—viz. Sidney Joseph Tatchell, *Fellow*; Herbert Joseph Axten, Walter George Whincop, Vasudeo Ramchandra Talvalker, *Associates*.

The Secretary announced that the Council had admitted to alliance with the Royal Institute under By-law 78 the South Australian Institute of Architects.

The Secretary further announced that the following Associates, having been found by the Council eligible and qualified under the Charter and By-laws, had been nominated for election to the Fellowship—viz. Herbert Austen Hall, Cyril Wontner Smith, Septimus Warwick, Herbert Winkler Wills.

Mr. Horace Porter, M.A. Cantab. [*A.*], having read and illustrated by lantern slides a Paper on the WALLS OF VISBY, GOTLAND, a vote of thanks was passed to him by acclamation on the motion of Mr. Axel Haig, seconded by Mr. Geoffry Lucas [*A.*].

The proceedings closed, and the Meeting separated at 10 p.m.

Publisher's Announcements.

Messrs. Jarrold & Sons will issue shortly *On and Along the Thames, James I.*, 1603–1625, by Mr. W. Culling Gaze, architect. The work is stated to be the outcome of many years of deep and exhaustive research and the assimilation and digestion of facts connected with the life associated with the famous river. A number of plates will be included, showing views of London along the river about the year 1616.

THE PRINCIPLES TO BE OBSERVED IN DESIGNING AND LAYING OUT TOWNS TREATED FROM THE ARCHITECTURAL STANDPOINT.

By T. Harold Hughes, A.R.C.A.Lond.(Arch.) [*A.*], R.I.B.A. Essay Medallist 1912.

[*Continued from page* 82.]

(*i*) *Open Spaces.*

Open spaces are desiderata in every plan, and may vary in size from the vast round point or square in the heart of the town to the small enclosed place recessed from the busy street. There are two ideals in the designing of open spaces, each having its proper place. The object of one is to cast its radiance on the adjacent streets, while that of the other is to form a sense of enclosure, becoming in its nature something of an open-air room. A combination of both these ideals may at times be made, and it should be remembered that open spaces, linked together by broad avenues and well planted with trees, will form valuable and effective park systems. Open spaces which are complete in themselves and not connected up with strips of park-way can, both "open" and "enclosed," be of various shapes. Squares, oblongs, ovals, circles and ellipses, hexagons and octagons, may all be effectively used, many of these shapes giving excellent effects of light and shade on the buildings which surround them.

Good proportion and complete harmony between the open spaces and the buildings around them are essential. One of the objects of the open space being to show to advantage the buildings in relation to which it is planned, great care must be taken that it be not so large as to dwarf them, nor so small as to prevent them being properly seen. Though no definite rules can be laid down, it will be generally found that a long building will require a space longer than deep, whilst the narrow lofty building will require the reverse. Care should also be taken in the method of running streets into the "place" to preserve the regular lines of the buildings surrounding it, and important buildings should be so placed as to form interesting vistas to such streets. Uniformity in the skyline is desirable, and in places of circular or elliptical form attempts should be made to preserve the great sweeps of cornice and roof.

Large open spaces will be much used as traffic centres, and as such should not be placed in direct relation to any public buildings. They must be big enough to receive effectively the great avenues, and to preserve regularly the line of buildings round. The large round point will, when used as a "place" with traffic circulating round, and not crossing the open space, afford an excellent opportunity for some large central monument, which, with avenues entering obliquely, must be of such a form as to present a regular face to all points.

When open spaces have buildings occupying the sides only, some architectural frame to the angles, formed by trees or by columns, will be necessary to prevent any feeling of weakness at such points. Sometimes it may be necessary to group several open spaces round a building when owing to its location plenty of open ground is required, which must not, however, dwarf the building; then by some subdivision a proper setting to it on all sides may be obtained.

The value of the enclosed space should not be overlooked. The sense of enclosure may be obtained by a judicious arrangement of the incoming streets, by effectively closing the vistas of all openings out of it, by linking up the buildings with colonnades, trees, or arches, or the lines of the buildings themselves may be strong enough to carry the eye across an intervening street. Some methods of enclosing the space may be architecturally of great value, as, for

instance, the use of hemicycles as at Nancy and the Roman Fora with their magnificent colonnades are excellent examples of the happy treatment of similar problems.

When the centre of the place is laid out as a garden, well-designed piers and railings, preferably of stone, should be used. Thin cast or wrought iron fencing is ineffective in scale.

(k) Bridges.

In the well-laid-out town railway bridges within the city will be avoided, and the only bridges required will be those crossing some river or deep ravine, or, with streets at different levels, viaducts offering interesting problems in design. It should be borne in mind that the bridge must be satisfactory not only as seen from the top, when its proportion and vistas will be of great account, but as seen from beneath, when the proportion of its arches, its general design and connection with the embankment are the chief considerations. Naturally many lines of traffic will converge on to the approaches; these, then, may be made of great size, and possibly would be best in the form of large circuses, giving greater dignity to the bridge. The scale of the structure and its approaches must be very carefully considered in relation to the surrounding buildings—in all cases they will necessarily be so diverse that it will be advisable completely to disconnect them.

The ramps to bridges should make agreeable composition of line both with the bridge and embankment. The architectural forms which may be used to decorate the open place in front of the bridge should also have some definite connection with the embankment, welding by firm lines the river-side and open space together. Flights of steps, triumphal arches, colonnades, and trees may be used for the purpose, connecting the embankment with the bridge and giving greater importance to the approach.

Monumental bridges may be adorned with colonnades, whilst the piers will afford excellent opportunities for the introduction of sculptural decoration, and their approaches may be enhanced by triumphal arches, pylons, and great curved colonnades.

Long bridges with strongly marked architectural lines and broad formal surroundings should have no camber if it can be avoided.

When iron bridges are necessary the iron should be used in the simple straightforward manner expressive of construction in that material, and to bring the bridge into harmony with its surroundings stone abutments, pylons, and balustrades to the approach should be used, as so well exemplified in the Pont Alexandre III. at Paris.

(l) Grouping of Buildings.

The grouping of buildings is of the utmost importance in giving greater emphasis to the chief points in the plan, and, more effectively than can be done by a single building, however large, in making an impression upon the spectator (as it should be the designer's constant effort to do) of the bigness of scale of the city and the greatness of the civic life which the buildings express.

Public buildings must always be placed where they will be seen to best advantage and confer the greatest dignity upon the whole design. They may be grouped in a wide street, when their projections and general treatment should be modified to suit the points of view obtainable. They may be placed at the end of a long avenue, when care must be taken to proportion effectively to the latter the forecourts and open space in front, and the design itself must be composed to tell at a distance [fig. 5]. They may be built on an eminence, when a crypto porticus, great embankment walls, terraces, carriage-ways, flights of steps and buildings placed at a lower level to throw back the central mass, will all be conducive to a great monumental effect. They may be placed in conjunction with an open space or spaces, and then must be so grouped as to be well seen from the various avenues which may be connected with

them; or again, they may rise from the water's edge, when the treatment of water and architecture offers endless opportunities [fig. 8, p. 82]. A continuity of effect may be obtained by linking up the several groups of public buildings by wide avenues or strips of park-way.

The scale of the buildings must always be adjusted to the distance from which they will be usually seen, and should be suited to the size of the town which they adorn.

Buildings placed in architectural relation to one another may be all in line, some may be recessed or advanced from the general front or placed at right angles, or they may be grouped round a forecourt, or all these methods may be combined. When it is desired to preserve a vista of a building some distance away the grouping may take the form so effectively devised by Wren at Greenwich, a treatment which might also be adopted when an opportunity occurred in the streets of the town. When one building is placed behind another, it should be simple and severe in its lines as a foil to the more richly treated building in front.

In grouping, some principal units should be repeated through all the designs, thus obtaining unity of effect; and small subsidiary buildings must be so treated and placed that they may not be hindrances to the preservation of the general scale, a matter of some importance. A concentration of interest is desirable, and this, when produced by larger masses and deep shadows, will materially increase the value of the vista [fig. 7].

The buildings may be linked together by arcades, colonnades (not timidly used, but used as Bramante would have done at the Vatican!), trees, terrace walls, and steps, whilst police boxes, monuments, statuary, and flights of steps well placed will help to link up the buildings with their surroundings and to create a greater total impression. All lines of grass, steps, terrace walls, and trees or shrubs should be so laid down as to give good composition of line with the buildings and their details.

An endeavour should be made to raise the buildings, when on the flat, above the general level. When the approaching street rises it should be made of great width, and the centre part may be sunk to form a series of flat terraces, connected by steps, the broad lines of which will greatly help in the attainment of a monumental effect.

(*m*) *Buildings in General.*

Modern conditions of city life and methods of transit condemn the irregular streets and junctions; on all hands formality is required, and this formality must be carried through to the buildings, long level lines of cornice and string best suiting the straight street and formal curve.

The planner of the town, unhappily, will not supervise its execution. He must not calculate, therefore, in his disposition of the several parts, that one building by a greater projection or a greater height, or by the addition of a tower, porch, or gable required to form a pleasing termination to some vista, will be erected when the time comes for his plan to be completely carried out. Such is impossible. All points of emphasis therefore desired in the buildings must be located at the centre or angle of a façade, or any other point which would naturally receive attention at the hands of its future designer.

Some system of massing buildings together should be adopted, avoiding a multitude of little straggling units, especially in the residential quarters, where it would be better to group several houses together and throw the little bits of garden into one large open space. Similarly six or seven storied flats and hotels could be grouped together round some open space, well laid out, the sum of all the unbuilt-on areas belonging to each.

Scale should be maintained in the buildings of each quarter, and their heights might be regulated in different well-marked zones. An attempt also should be made to obtain a certain uniformity of colour and bulk in buildings on a given area. Absolute symmetry is not so essential as a balance of skyline, and it should be remembered how roof-lines affect the

appearance of the city as seen from without. Long, level lines will generally be found to suit a hilly site, whilst vertical lines will be more effective on the plain.

The character of buildings should be expressed in their elevations, certain areas expressing their purpose in the design of the edifices—a solidity and plainness will characterise those of the industrial quarter; quiet, restful lines and a homely effect those of the residential; whilst a greater richness and wealth of ornament, together with an appearance of greater dignity, will be the note for the buildings of the civic centre.

Buildings should be designed to suit the positions from which they are likely to be most seen—breaks and projections being avoided when it is impossible for the spectator to get far enough back to appreciate them properly, and the effect of the sun on the buildings according to their position should be carefully considered.

In the long city thoroughfare a judicious break might be formed by a set-back in the building line which may extend to the ground and be filled with trees or to the first floor only, leaving a roof garden, a pleasant spot of colour in the street. Similarly in the residential area long rows of buildings exactly alike should be avoided, and houses occasionally set back or brought forward from the general building line or gathered together into groups of definite form will give a welcome variety.

An effort should be made (in spite of our lack of tradition) to give some architectural character to the city, a character such as the dome gives to Byzantium, column and pediment to a Greek city, or the spire and gable to a mediæval town. Even under present conditions the establishment of a Minister of Fine Art might do much to preserve a more uniform and higher standard of design in the buildings of our towns.

II. The Town's Ornamentation.

(*a*) *Trees, Shrubs, and Gardens.*

Of all methods of adorning our towns the use of greenery is naturally one of the most attractive, and every town plan must provide amply for trees, shrubs and gardens. These must not be thoughtlessly dotted about, but subordinated to the architecture and used to assist in the general city design. No attempt must be made to make the work of man imitate that of nature, and trees and gardens used in our cities must partake of some of the city's order and formality. The introduction of trees, shrubs, and grass may be considered under the following heads:—(1) Trees in Avenues and Open Places; (2) Shrubs, Flowers, and Gardens; (3) Plots of Grass; (4) Treillage.

1. *Trees in Avenues and Open Places.*—Trees, as spots of colour contrasting with the buildings of the city, add much to its beauty. They must not be scattered about, but will be used to best advantage when planted in some open space or forecourt or in the long lines of the street. A building of strong classic lines may gain in appearance by the contrast of a free and informal treatment of greenery in front, and so with squares which are surrounded by buildings simple in outline, as may be seen in many London examples; but care must then be exercised in the disposition of the larger trees that they do not by their bulk dwarf the buildings and prevent the square being seen as one complete and architectural scheme. In avenues less than seventy feet wide trees should not be planted in the centre of the roadway, but only at the sides and openly spaced. In wider avenues the trees may be planted in the centre in one or two lines, and may be paired or used in rows of four giving delightful shaded walks beneath. They must always be proportioned in their height and bulk to the buildings on either side. Variety can be obtained by using different kinds in the various squares, but care must then be taken to avoid anything in the nature of specimen planting. Trees may often be planted to frame-in some distant view; and long avenues of trees with some interesting

terminal vista, such as in the Luxembourg Gardens, should find a place in every city plan [fig. 2]. Trees may be effectively used to link building to building and complete some great architectural scheme.

2. *Shrubs, Flowers, and Gardens in Open Places.*—Shrubs, since smaller in size, may be planted in greater freedom. In open spaces they may be used with advantage to accentuate the angles of the gardens there laid out, or, again, clipped, used as a border and in connection with statuary to which they form an excellent background. Shrubs in boxes should be freely used in conjunction with buildings and monuments, and flanking the steps of the former they will give an added dignity. If they are to be disposed regularly as a border to open spaces, and to accentuate angles or cross paths, excellent models will be found in the Tuileries and Luxembourg Gardens. When put on parts which are paved and too small to permit of earth beds, they are of great value in "carrying through the green." Large shrubs in boxes, lining an avenue to a building, will, by the contrast of their mass and shape, give something of the effect of an avenue of obelisks before an Egyptian temple.

Parterres may be laid out in the open spaces, where masses of one kind of flower only should generally be used and not divided patches of different colours; for the shape of their beds, simple and interesting geometrical figures will always be best. In their general lines they must contribute to the total effect of the surroundings, and a fussy and restless appearance be avoided.

3. *Plots of Grass.*—Plots of grass will naturally be chiefly placed in the open squares and forecourts of public buildings, long wide stretches of grass unbroken by shrubs or flowers giving a splendid sense of breadth and repose. Intersecting paths should form good shapes to the plots, and an edging of flowers or shrubs will help more clearly to demarcate their shapes. Proportion between the paths and grass must carefully be observed, the bulk of grass (unless merely surrounding a statue) must predominate: the Schloss Garten, Vienna, is an example of the ill effects resulting from a neglect of this rule. Grass will be most effective in avenues when it is flanked on each side by shrubs or trees, and will help to take away from the hard dusty look of too broad an expanse of paving and roadway.

4. *Treillage.*—As a general rule the light appearance of treillage will exclude it from any position near to the large public buildings, and it will be best reserved for parks and open spaces, where it may be used with great advantage in connection with such utilitarian structures as conveniences, shelters, &c. As a background to a garden, in its general lines treillage should take some architectural form, and with it many interesting little alcoves and recesses may be formed.

(*b*) *Water.*

In addition to the river, lake, or stream, which the site may possess, the possibilities of sheets of artificial water or of playing-fountains should not be overlooked. These may be introduced into all parts of the city, the calm and repose suggested by water being intensified when contrasted with the roar of traffic.

Small streams or rivers passing through the city site, and of themselves too small to be in scale with their surroundings, might well be converted into water canals broad and formal in treatment, their banks affording excellent opportunities for the laying out of strips of pleasure gardens. When such streams or brooks are tributaries of rivers and their banks likely to be used for manufacturing purposes, Wren's scheme for the Fleet Ditch should be borne in mind.

Water as used to decorate cities may be considered under four heads:—(1) Large Sheets and Canals, (2) Ponds of Medium Size, (3) Small Ponds, and (4) Fountains.

1. *Large Sheets and Canals.*—Big sheets of water are well adapted to the plain, and

when large canals or lakes are planned they should definitely become the dominating element in the scheme, any grass plots in size and number being subordinate. With the great formal shapes such as these sheets of water would take, it would be best to avoid a too formal cutting of the surrounding trees; the Château de Chantilly and Versailles with their broad masses of foliage are good examples of the most effective treatment. Vast expanses of water such as these, with their feeling of great breadth, are eminently suitable for the forecourts to palaces or large public buildings. As sculpture in the water would be out of scale and detract from their broad effect, small jets of water only should break the line; and any sculpture should be placed at the ends, where, with architectural details, it may become an integral part of the scheme. The edges of the lakes should be kept low and parapets be avoided; a wide stone curb and an edging of grass will appear more effective and less disturbing to the general sense of breadth.

2. *Ponds of Medium Size.*—As with plots of flowers or grass, the first essential is that ponds shall be of interesting shapes, and so disposed as to harmonise with their surroundings. In a scheme in which both grass plots and water ponds are used, the water ponds will naturally be placed where any special point of emphasis is required, as in the gardens of the Tuileries or the Luxembourg [fig. 2]. Variety can be obtained by sinking the ponds below the general level. Much scope will then be afforded in the treatment of the sides with architectural details and formal planting, and, here as elsewhere, terminal figures might be placed in such positions as to give interesting reflections from prominent view-points. Delightful effects may be obtained by planning long narrow strips of water, the sides closed in by tall trees and the ends terminating in a building or piece of sculpture.

When sheets of water are planned in relation to buildings they should be so placed, both as regards levels and position, as to obtain from suitable points some interesting reflection. The great possibilities of water in conjunction with architecture should not be overlooked: water emerging from the deep shadowy recesses of the sub-structure of a building or terrace, or the walls rising sheer out of some lake or stream, such as Du Cerceau pictured in his ideal Châteaux, give effects worth striving to obtain.

3. *Small Ponds.*—Small ponds of water are of value in giving emphasis to certain points in a park or open place, or at the intersection of avenues having in their centres strips of grass. Such water ponds, when occupying important positions, may often be most effectively combined with architectural features, such as bridges, balustrades, and fountains, as in the Villa Lanti, Bagnaia. The small ponds will also afford excellent opportunities for the exercise of the sculptor's art and for the combination of architectural details with water. Interesting geometrical shapes will be the most effective, and proportion between the surface of grass and of water must always be carefully considered; one or the other must predominate.

4. *Fountains.*—Fountains should not be indiscriminately placed about the town, but rather reserved to accentuate spots of interest, and should be placed either in connection with some building to which their suggestion of life and movement will form a striking contrast, or in some relation to a formal lay-out in the avenue, open space, or park. A small and interestingly shaped basin fed from a fountain in some dark recess round which rise the approaching steps to the entrance of a building, as may be seen in such examples as the Villa Sacchetti [fig. 1, p. 65] or the Capitol, Rome, would greatly increase the importance of the entrance when the principal floor is much above the level of the ground.

In the bringing of the water service to a town, particularly if it be closely surrounded by hills, a water château could be most effective, even if on such a small scale as may be seen at Bourges.

(*c*) *Utilitarian Accessories.*

Such features as car shelters and cab ranks have, in this country at least, proved themselves objectionable, not only on account of their bad designs, but chiefly because of their lack of proper positions. Structures of this nature should never be placed at the sides of streets; from the very first in a well-ordered design they should have a proper place assigned to them where they will not detract from, but rather add to, the effect of the avenue and open place. Given a proper position, they might be built of a more permanent material; wooden erections can hardly be in keeping with the dignity of the surroundings.

Lamp standards might more frequently be of stone when in conjunction with buildings. If of metal, both wrought and cast-iron, properly treated, will give satisfactory results; better designs might also be attempted for the standards of the electric-car systems—designs more expressive of the material of which they are made. Lamp standards should be placed to serve some definite purpose in the street or square or on the buildings they illuminate, when, by day and night, they might enhance the effect of the architecture or the lines of the open place; the brilliant effect obtained by a judicious arrangement of lights, following the lines of the plan, may be seen in the Place de la Concorde.

Street name-plates should be uniform in size, of good lettering, and placed at uniform levels. They would be better on lamp standards than on buildings, the varied features of which will naturally prevent uniformity of height always being obtained. These and many other utilitarian objects necessary to the city, if provided for in the first place, even when not objects of beauty, will at least not assert themselves to the detriment of the general effect.

(*d*) *Civic Ornaments.*

Civic ornament must be in scale and harmony with its surroundings. Having a definite part in the conception of the whole scheme, it should be used, like ornament on a building, to concentrate upon points of interest, and as in architecture the structural parts are left severely plain, so also civic ornament would be better reserved for less distracting spots than the busier thoroughfares and traffic places.

Civic ornament may be divided into four classes :—(1) Triumphal Arches; (2) Monuments; (3) Statuary; (4) Architectural Details.

1. *Triumphal Arches.*—These should be sparingly used and only in connection with some great wide avenue or bridge; in the first case, either to mark in an imposing manner the beginning of some such avenue, or used at its termination in some open space. Arches may be used in connection with bridges either in the centre or at the ends. They may, especially when used with a small bridge, be of great size, completely dominating the whole and forming a magnificent entrance to a city, or, with larger bridges, they may be smaller in relation and linked by colonnades and other details to the bridge and open space in front. Triumphal arches should be unattached to any building which, of its nature, must be different in scale, and skill is required when using them in juxtaposition to prevent the scale of the latter being destroyed. The arches themselves must be so designed and of such dimensions as to prevent their looking insignificant in comparison with neighbouring buildings or forming an ineffective terminal to a vista. They must be placed with discretion; the Marble Arch can hardly be regarded as an example happy in its position, serving as it does no definite purpose; and they should never be placed to form, seen obliquely, a terminal vista to any important avenue or street.

2. *Monuments.*—Every city will have in the course of time some citizen or incident the people may wish to honour or perpetuate the memory of by some large monument. Such may be largely architectural with sculpture of secondary importance, such as Wren's monument to the Fire or the monuments to the cities of France in the Place de la Concorde; then, as with all

other civic details, situation is of primary importance. They may be set in the centre of some large open place, such as Napoleon's column in the Place Vendôme; and when in direct relation to a building or group of buildings they must accord in bulk, shape, and detail with their architectural surroundings. They may be placed to form terminal vistas to the avenues or within the parks, in both of which cases the immediate surroundings should be formal and architectural in treatment, a link between the monument and the trees and gardens around. The importance of the monument may be increased by the addition of colonnades, large flights of steps, water basins or statuary, when it may become the *raison d'être* of a surrounding open square.

3. *Statuary.*—The use of sculptural detail should not be to mark the absence of any architectural idea but rather to accentuate one, and if sculpture be used with buildings, as it should, then to have its full value in any scheme it must be thought out from the very first in relation to the architecture it is to adorn. Statuary may be used most effectively in conjunction with buildings in such positions as flanking flights of steps, when its light and more fanciful touches will contrast well with the more formal building. Detached groups of sculpture completing the scheme of the building itself will have the value of linking the architecture with the open spaces and streets in front. The details of isolated groups of sculpture should always be designed to blend with the architectural character of the neighbourhood, and when placed in conjunction with some building, the details should be considered with those of the building itself. "Realistic" statuary would be best reserved for parks and gardens away from the buildings, while monuments with much movement and grouping of figures may be "steadied" by an architectural canopy. The beauty of statuary in combination with foliage must not be forgotten, but figures should not alternate with vases—such a plan only results in the scale of each being destroyed. The subject of the sculptural decoration of buildings might well be the history and industries of the town, and so help to portray its individuality.

4. *Architectural Details.*—These include such objects as seats, steps, vases, and other civic furnishings, all of which must take their place as units in the whole scheme, not asserting themselves, but helping to attain the general effect. Decorative paintings, iron, bronze, marble, and many other materials and crafts might be used to adorn the city and give colour to a usually too sombre appearance. Finally, every little detail requires careful consideration, for interest in the town's design must be maintained to the least accessory. A baluster ugly in contour may mar the effect of a whole terrace. As Sir William Chambers said, speaking of mouldings, the whole can be spoilt by bad details, just as a fine musical composition may be murdered by a group of village fiddlers.

In the realisation of a fine conception, by a steadfast adherence to a great ideal and a rejection of all that is unessential the city should have, as Wren said of buildings, at least "the attribute of eternal."